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School of Computer Science and Informatics

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Information Systems Doctoral Programme

**An investigation into the contribution of e-learning to the  
improvement of higher education opportunities for women in  
Saudi Arabia**

**By**

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## **Abstract**

Electronic learning (e-learning) has recently introduced by the Saudi government to expand educational opportunities at higher education level, especially for women. However, due to the status of women in Saudi society, understanding the ability of women to take advantage of such technology rather than just making it available to them is required and should not be ignored. In this regard, this study aims to illuminate the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement, by identifying the factors that affect their ability and the dimensions that characterise their capability requirements.

To achieve this, the study adopts the capability approach as a guiding theoretical framework to provide a strong foundation and address the developmental theoretical insights as well as to demonstrate the ability of Saudi women to access and use e-learning freely in order to achieve their higher educational goals. Semi-structured interviews were conducted to collect data from twenty-four women living in the Najran and Northern Border regions in the Kingdom of Saudi Arabia using a proxy interview approach. Alkire's and Robeyns' techniques, with the support of the Straussian grounded theory procedures, were used to analyse the data collected.

The study finds that the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement is limited and affected by four factors: tribal society culture, cultural use of the internet, family willingness and government stimulation factors. It also identifies thirty-four dimensions that empower or prevent Saudi women's freedom to access and use e-learning efficiently as a means

to attain a valuable educational outcome. The value of the capability approach to inform an analysis on Saudi women's access to e-learning as well as the usefulness of applying the grounded theory to support the capability approach in the process of selecting the valuable dimensions for Saudi women to access e-learning, were also found.

The study concludes that e-learning could probably be a bridge to enable women in the Kingdom of Saudi Arabia to access higher education. However, the issue is not just about technical availability, it is also about the capability of women to benefit from such a technology. Therefore, it is not enough to provide Saudi women with an opportunity to complete their higher education via e-learning without giving them the power to access and use it freely, whenever they are able to and want to do so.

The study contributes by helping to open the window in front of women so they can make their voices heard and draw the attention of the government on the dimensions that characterise their capability requirements to access and use e-learning freely, as well as to give a better understanding about their situation within Saudi society and its role in affecting their ability. It also introduces a distinctive analytical framework to combine practical and theoretical strands in order to develop practical capability approach dimensions.

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This thesis is dedicated:

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To all of those women who suffer from lack of freedom and inequality as well as male dominations and inability to live their lives as they want.

## **Publications**

Some content from the following publications has been used in this thesis by the researcher.

### **Journal articles:**

1. Al Alhareth, Y., (2014), E-Learning Accessibility for Saudi Women: A Literature Review, *International Journal of Emerging Technology in Learning*, 9(4): pp. 65-67.
2. Al Alhareth, Y., and McBride, N., (2014), E-Learning in Saudi Higher Education: A Literature Review, *International Journals of Reviews in Computing*, 13, 10<sup>th</sup> January 2014.
3. Al Alhareth, Y., (2013), E-Learning Contribution to the Enhancement of Higher Education Opportunities for Women in Saudi Arabia (Pilot Study), *US-China Education Review A& B, USA*, 3(9): pp. 637-648.

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1. Al Alhareth, Y.; McBride, N.; Prior, M.; Leigh, M. and Flick, C., (2013), Saudi Women and E-Learning, *3rd International Conference on the Future of Education, 13-14 June, Florence, Italy*.

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## **Abbreviations**

AOU	Arab Open University
CA	Capability Approach
CDSI	Central Department of Statistics & Information
DMU	De Montfort University
E-learning	Electronic learning
F	Female
FHREC	Faculty Human Research Ethics Committee
GT	Grounded Theory
ICT	Information and Communication Technology
Imam U	Al-Imam Muhammad Ibn Saud Islamic University
IT	Information Technology
KAU	King Abdulaziz University
KAUST	King Abdullah University of Science and Technology
KFU	King Faisal University
KFUPM	King Fahd University for Petroleum and Minerals
KIU	Knowledge International University
KKU	King Khalid University
KSU	King Saud University
MoE	Ministry of Education
MoF	Ministry of Finance
MoHE	Ministry of Higher Education
NCeL	National Centre for E-learning and Distance Learning
SACM	Saudi Arabian Cultural Mission
UKSACB	Cultural Bureau of Saudi Arabia in the United Kingdom

## **1. Introduction**

The purpose of this chapter is to introduce general information about Saudi Arabia by discussing several different topics including: country, society, education system, women's education and electronic learning (e-learning). The study's motivation, background, statement, purpose and questions are discussed, while the capability approach and the grounded theory are briefly introduced. The structure of this thesis is also presented.

### **1.1. Context of Saudi Arabia**

#### **1.1.1. Saudi Arabia**

In 1788, the early state of Saudi Arabia was launched by Muhammad bin Saud and located in Najd. In the early 20<sup>th</sup> century, in 1902, the modern state of the Kingdom of Saudi Arabia was established by King Abdulaziz Al-Saud, with Riyadh as its capital city (Alaugab, 2007; Ministry of Higher Education, 2010; Royal Embassy of Saudi Arabia Washington DC, 2013). It is one of the most developed countries in the Middle East and is divided into thirteen administrative divisions (see figure 1-1). The official language is Arabic and the official religion is Islam (ibid). It is a vast country covering approximately 2,218,000 km<sup>2</sup>, almost four-fifths of the Arabian Peninsula with largely uninhabited deserts and semi-arid lands (Ministry of Higher Education, 2010) with rugged terrain. The total estimate of its population in 2013 amounted to 29,994,272 or 16,945,836 males and 12,852,059 females (Central Department of Statistics and Information (CDSI), 2010).

Saudi Arabia is the homeland of Islam, where you can find the two holiest cities of Makkah and Medina. The Holy Qur'an is the foundation of the law and Islamic law is employed in the country (AlMunajjed, 1997). The major source of income in Saudi Arabia is oil and because of its large resources, it has become one of the richest countries in the world (AlMunajjed, 1997; Al-Khalifa, 2010c).



Figure 1-1: Map of Saudi Arabia (Source: <http://www.riyadh.gov.sa>)

The thirteen administrative regions of the Kingdom of Saudi Arabia are distributed between five areas namely: centre, east, west, north and south. Each one of these areas comprises a number of regions which in turn contain numerous provinces. For example, the North part of the country consists of four regions namely: Tabuk, Al Jouf, Hail and Northern Border (CDSI, 2013). As this study only focuses on those women who live in the Northern Border region from the Northern part of the country and the Najran region from the Southern part of the country, it will only present brief information about these regions.

#### **1.1.1.1. Northern Border Region**

Northern Border is one of the Northern regions of Saudi Arabia, which located in the northeast of the country along the borders with Iraq and Jordan. It is divided into three provinces namely: Arar, Rafha and Tarif (see figure 1-2) (CDSI, 2007). It occupies roughly 111,797 km<sup>2</sup> with an estimated population of 350,972 in 2013 (CDSI, 2010). The majority of the population from the Northern Border comes from the Alroalah and Alenazah tribes (CDSI, 2007). This indicates that the society of the Northern Border is a mix between a conservative and a tribal society, which highly impact on people's behaviour.

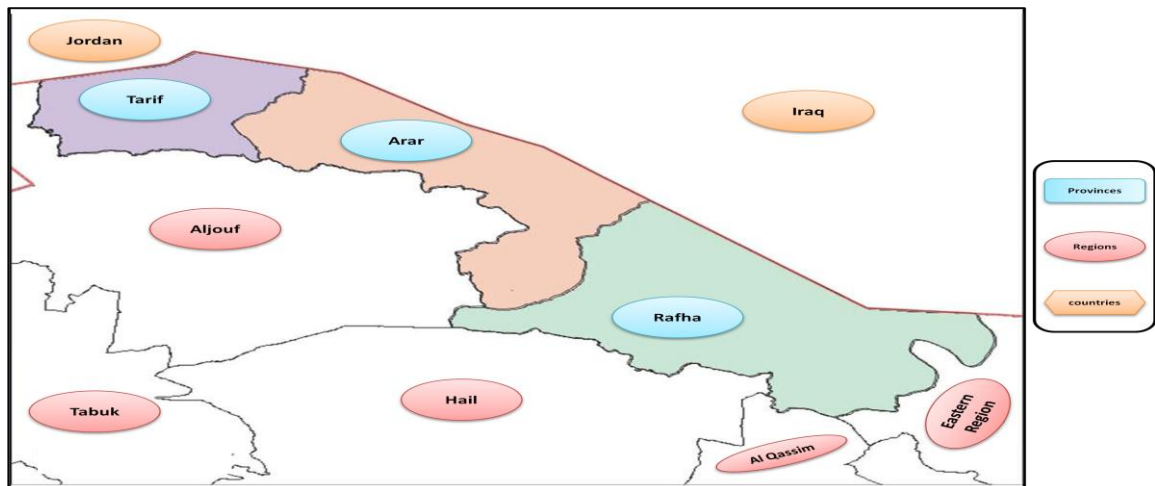


Figure 1-2: Map of the Northern Border Region (Source: <http://www.cdsi.gov.sa>)

#### **1.1.1.2. Najran Region**

Najran is one of the Southern regions of Saudi Arabia, which located in the southwest of the country along the borders with Yemen and Oman. Najran is divided into eight provinces: Najran city, Sharurah, Bader Aljanub, Yadamh, Thaar, Kobash, Hobuna and Alkharkhir (see figure 1-3) (CDSI, 2007). It occupies around 119,000 km<sup>2</sup> with an estimated population of 505,000 in 2013 (CDSI, 2010). The Yam tribe is the main tribe

living in Najran and it is considered as one of the most conservative tribes in the kingdom (CDSI, 2007). This implies that Najran is a conservative and tribal society, which greatly shapes people's life and behaviour.

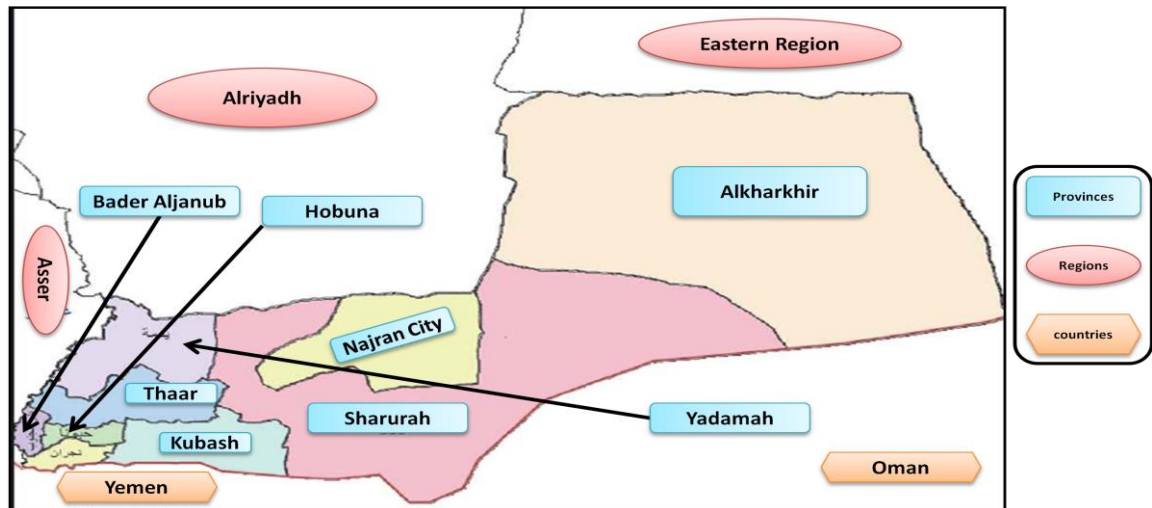


Figure 1-3: Map of the Najran Region (Source: <http://www.cdsi.gov.sa>)

### 1.1.2. Saudi Society

Saudi Arabia is a socially and religiously conservative country (Metz, 1992). It has a high cultural homogeneity based on tribal and Islamic affiliations and therefore has a unique and complex culture. Hence it is difficult to differentiate between Islamic principles and Arabic customs (Al Lily, 2011). Some customs, such as the belief that women should not drive cars or practise Law or Engineering are not from Islamic law but have become entrenched in the culture (Hamdan, 2005). Women's function in wider society is limited and Saudi Arabia has one of the lowest participation of women in the workplace, particularly from graduates (World Bank, 2009). Yet, this is needed for the country to achieve progress (AlMunajjed, 2009). Therefore, the government faces great challenges if it is to achieve its goal of development and fundamental changes in the way society is conducted are needed.

### **1.1.3. Saudi Education**

General education was introduced in 1925 but its real beginning was in 1953 when the Ministry of Education (MoE) was established, while higher education first started in 1975 when the Ministry of Higher Education (MoHE) was established (Saudi Arabian Cultural Mission (SACM), 2006; Ministry of Higher Education (MoHE), 2010). In 1970, the Educational Policy was laid out by the Highest Committee and the fundamentals, roles, aims and objectives were laid out (Alaugab, 2007). Based on Islamic law, the Education System requires gender segregation at all levels and the continuation of Islamic educational heritage as the official purpose (Wiseman et al., 2008). Saudi education is free from preschool to the end of university for all citizens (Al-Khalifa, 2010c). Education is divided into nursery school for children aged three to six, elementary (primary) school from six to twelve - which is the only compulsory stage, intermediate school from twelve to fifteen, secondary (high) school from fifteen to eighteen and then university level (SACM, 2006). Three main authorities supervise the Saudi educational system. The Higher Educational Policy Committee was established in 1963 to oversee the educational policy, plans and funding. The second is the Ministry of Education for all stages of general education in the country and the third, the Ministry of Higher Education, is responsible for the higher education in the kingdom (Alzaydi, 2010).

### **1.1.4. Education for Women**

Formal education for women began in the 1960s with the establishment of the first authorised primary school for girls in the city of Riyadh, but before this, women's education was happening in informal settings and concentrating on religious education



and the Qur'an (Hamdan, 2005). Higher education for women began in 1962 at King Saud University (KSU) (Alaugab, 2007; Al Khalifa, 2010c). In 1970, the Kingdom established the first college for women to provide female teachers (ibid). Since then further universities and colleges, in both the public and the private sectors, have been opened and women's education has developed (Alaugab, 2007; Almunajjed, 2009; Al Khalifa, 2010c). Some universities educate women in separate centres while others are exclusively for women. The Princess Nora Bint Abdulrahman University (PNU), in Riyadh, first started in 2008 to cater for 40,000 female students with different colleges spread in many places in the capital city (Alebaikan, 2010), but on 17<sup>th</sup> May 2011, King Abdullah officially opened the new university city which brings all of the university's colleges together in the same place (Al-Sughair, 2011). Thus the only higher education institutes exclusively for women are located in the capital, Riyadh, and the second city, Jeddah, which demonstrates the difference between the urban elite and the rural population which has less opportunity (World Bank, 2009).

#### **1.1.5. Higher Education and E-Learning**

Higher education has had to progress quickly to extend its student capacity because of the increasing demand. This has partly arisen due to the increasing competitiveness in the entry to employment and because higher education is seen as important to improve the prospects of young people (Cordesman, 2003). The MoHE is working to encourage the use of Information and Communication Technology (ICT) to meet the demand. In 2006, the National Centre for E-learning and Distance Learning (NCeL) was established to carry out research, development and implementation of e-learning

(Alebaikan, 2010), and centres have opened at some universities (Al-Khalifa, 2010b; 2010c).

## **1.2. Motivation of the Study**

A personal reason, mainly, stands behind the choosing of this topic for investigation, as it was based on a real situation the researcher has faced. It started ten years ago when the researcher's sister finished high school and, as many other girls, she wanted to complete higher education. However, she firstly needed to get her father's agreement to be able to do so as he was responsible for her and had the right to make any decision related to her life, based on the law and the culture of Saudi society.

Unfortunately, his father refused because he thought high school was enough education for his sister as a female and he wanted her to marry one of their relatives, which she did but then divorced three years later. All the members of the family, including the researcher, tried to convince their father/husband to agree to let their daughter/sister complete her higher studies but their attempts were unsuccessful as they did not have any power because all of them were under their father's/husband's responsibility.

The impact of that situation on the researcher's views on women was very deep and made him wonder why women cannot choose and do whatever they want as men do. It also showed him the capability limitations that his sister was facing, such as her ability to be educated or to move and live her own life based on her own views. At that time, the researcher promised himself that he would help his sister complete her education and make her voice heard by men.

Six years ago, the researcher's father passed away so he became responsible for his sister, based on the law and social culture. The first thing he did was to let his sister make her own decisions about her life. He asked her to come with him to the United Kingdom to finish her studies and he is proud that she agreed to do so, as he wanted to start the second step towards achieving his promise of supporting his sister and other women in his society by focusing his PhD project on women's ability to complete their higher education using technology (e-learning) in a conservative and tribal society. He was really glad to have this chance to do so.

In addition to the above reason, there is another supportive reason to opt for this subject for the research that came from the literature review. It shows a significant lack in some areas which needs to be investigated. The literature indicates a lack in demonstrating the power of utilising the capability approach as an evaluative framework in the domain of technology in general and e-learning in particular, as it is in an early phase that requires more examination and development. It also shows a lack in determining the dimensions that affect Saudi women's ability to take up e-learning as well as in showing the proper way to select practical capability approach dimensions. Moreover, at least to the researcher's knowledge, none of the other researchers used the capability approach along with the grounded theory to select the capability approach dimensions. None of the previous studies conducted in Saudi Arabia has focused on the capability of Saudi women to access and used e-learning freely either.

In light of the above, this study therefore seeks to investigate the ability of Saudi women to convert the opportunity offered by e-learning to achieve a valuable educational outcome using the perspective of the capability approach, while also drawing from the grounded theory.

### 1.3. Background of the Study

The Saudi government sees education at all levels as a key to developing the skills and knowledge of its citizens (Alzaydi, 2010), and expenditure has been considerable with a quarter of the Saudi government's budget being spent on improving education (Alaugab, 2007; Alebaikan, 2010). Expenditure has increased year-on-year, for example 2012 and 2013 saw the budget increase by 16.5% and 13% respectively over previous years, from US\$40 billion in 2011, to US\$45 billion in 2012 and US\$54.5 billion in 2013 (see figure 1-4) (Ministry of Finance (MoF), 2013).

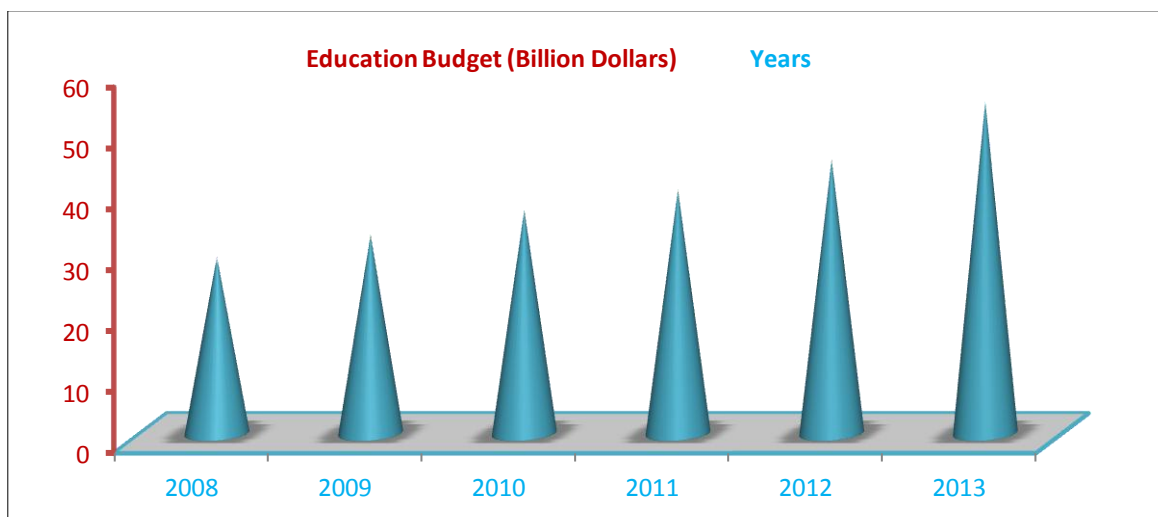


Figure 1-4: Education share of the Saudi government's budget from 2008 to 2013

(Source: <http://www.mof.gov.sa>)

Planned expenditure by the Saudi Government announced in the 9<sup>th</sup> Five-Year Development Plan for 2010 to 2014 amounts to US\$385 billion, which represents half of its budget and will be dedicated to human resource development including education and training (Ministry of Economic and Planning, 2010). Therefore an average of US\$77 billion will be spent in each of the 5 years up to 2014, which represents a significant growth in this sector. Higher education has seen great investment (Krieger, 2007) so that the seven universities from ten years ago have now become twenty-six public universities with a student population of over 988,000 (MoHE, 2013a; 2013b).

Women in Saudi Arabia are severely restricted by the cultural and religious dictum that a woman must at all times be accompanied by a male guardian whenever she leaves her home or travel outside the confines of where she lives (Al-Kahtani et al., 2006; World Bank, 2009) and this seriously limits their opportunities to access higher education (AlMunajjed, 2009). Also, arising out of cultural and traditional norms as well as Islamic law, gender segregation occurs in almost all aspects of Saudi life, and requires women to cover their face with a veil in front of strange men (Baki, 2004; AlMunajjed, 2009). They are also not allowed to drive (ibid) and this element of the culture makes it difficult for them to study at university. While some Western organisations and human rights groups described such religious and cultural issues as human rights infringements, the Saudi society, including a majority of the women, see it as a unique characteristic of their country (AlMunajjed, 2009) and adhere to it.

Higher education opportunities for women are severely restricted by the vast geographical area and the low number of institutions distributed in only the larger urban centres (Al Munajjed, 2009). The first universities were in the main cities - the capital, Riyadh, in the centre of the country, then Jeddah in the West and Dammam in the East have facilities for women - so higher education is accessible to women who live in these areas. In the South and the North, opportunities to study are scarce (see table 4-1) (MoHE, 2013b). This is borne out of the fact that the number of females from the Northern and the Southern regions of the country with bachelor's degrees or higher are lower than those from the capital city, the East and the West of the country (see figure 1-5) (CDSI, 2011).

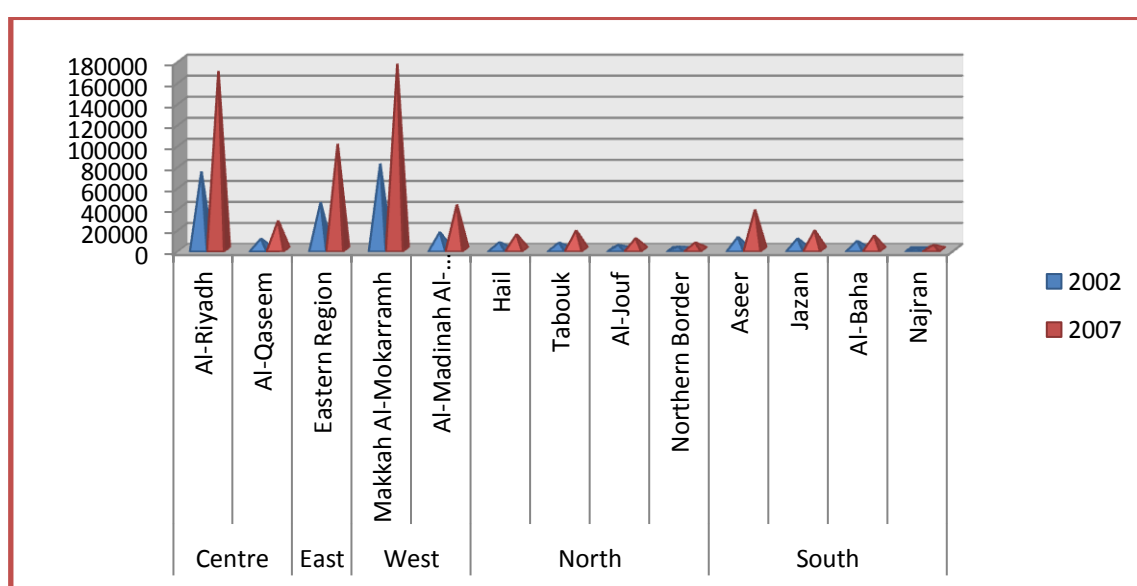


Figure 1-5: Saudi females (22 years old and over) who hold a bachelor's degree and above by regions for the years of 2000 and 2007 (Source: [www.cdsi.gov.sa](http://www.cdsi.gov.sa))

At the same time, the number of male graduates from the Northern and Southern regions of the country with bachelor's degrees or higher, are lower than those from

the capital city, the East and the West of the country because there were no universities in those regions, forcing them to travel to study in the nearest region that has got a university (see figure 1-6) (CDSI, 2011). However, their number is higher than the number of female graduates in these areas because of the absence of impact of social and religious barriers to male higher education opportunities, which mean that they can travel whenever they want without any restrictions from others (see figure 1-5 and 1-6).

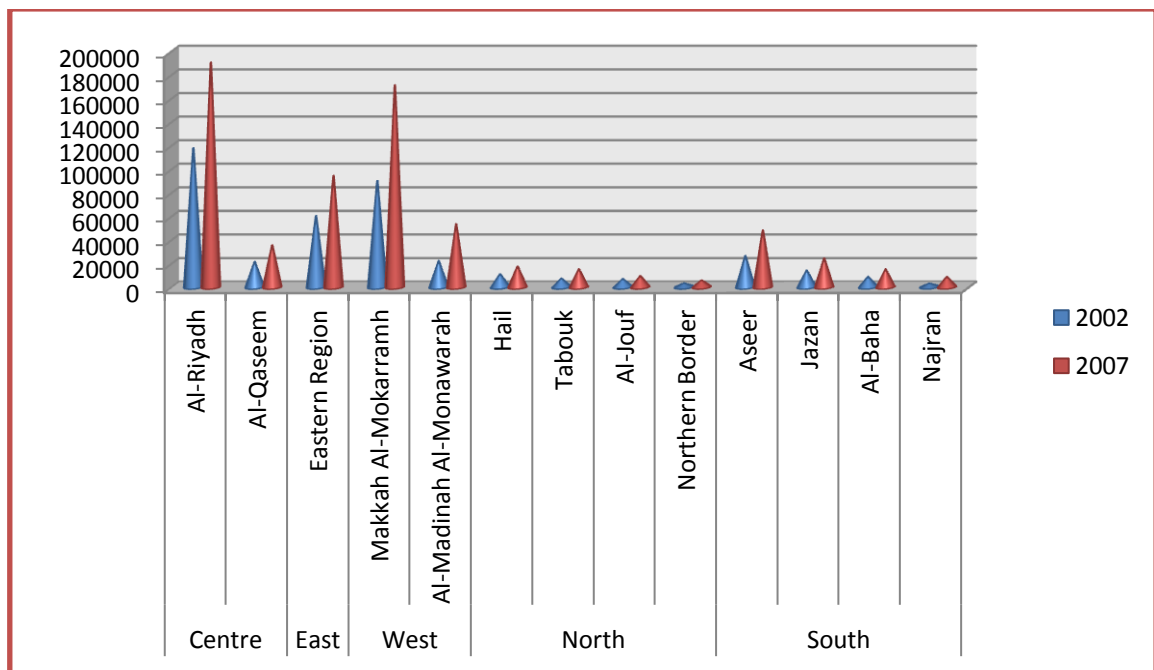


Figure 1-6: Saudi males (22 years old and over) who hold a bachelor's degree and above by regions for the years of 2000 and 2007 (Source: [www.cdsi.gov.sa](http://www.cdsi.gov.sa))

Due to the fact that universities are widely dispersed in major urban centres and that the country is very large, distances between universities can be great and they are therefore not easily accessible to all. Taking one province, Najran, the distances between the major centres are considerable, showing the size of the country and

contextualising the challenges in terms of accessibility to the universities for all students, including women (see figure 1-7) (CDSI, 2011).

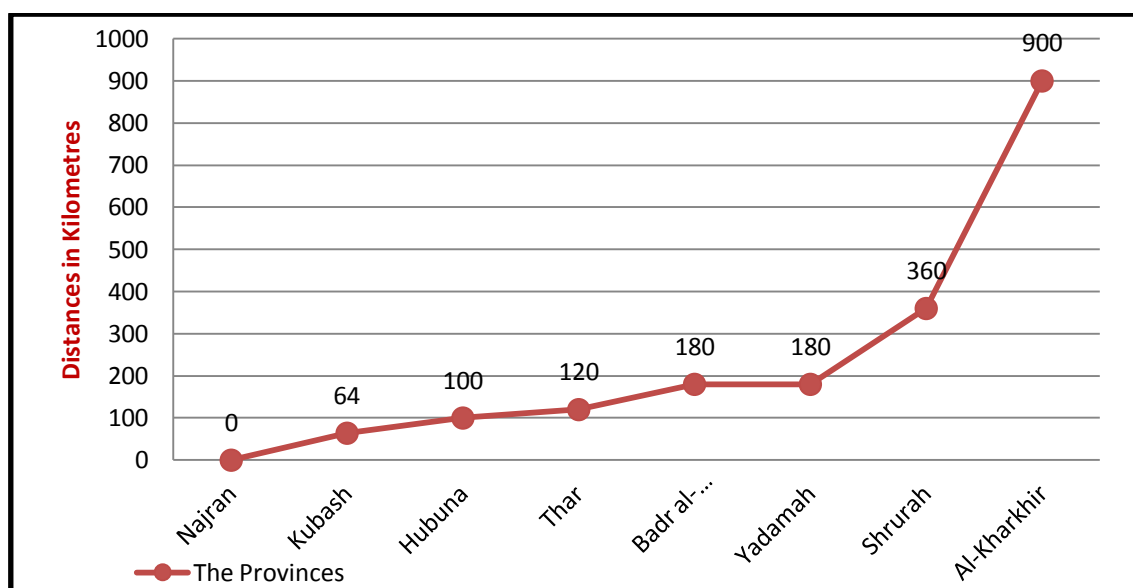


Figure 1-7: Distances between main city and province in the Najran region in 2010/2011 (in kilometres) (Source: [www.cdsi.gov.sa](http://www.cdsi.gov.sa))

However, the situation has improved greatly in recent years with the opening of a women-only university in 2007 and a range of other higher education institutes or female campus facilities on existing universities. This shows the commitment of the government to providing opportunities for women, at least in urban areas. The increase in the number of universities in recent years has certainly gone some way towards meeting the needs of the female population (MoHE, 2009).

The great distances between the major centres of cities and provinces, and the locations of universities and their branches, as well as the fact that women have to operate within the social norms and religious beliefs of society, entail some innovations to improve the higher education chances of thousands of Saudi women.



One of such innovations, along with the building of women only universities, is e-learning, which could have a significant impact by making education accessible to women and could revolutionise the way higher education courses are accessed. Supporting this view, Sheehy (2011) states that using online learning communities would help Saudi female students overcome their barriers to higher education by offering intensive education to them especially in areas where they are not given an opportunity to advance their education. This increases equity and equality in the society. Aljabre (2012) agrees and states that using e-learning, especially for women's higher education, opens up doors to women that have long been closed. However, it is recognised that there are some limitations to e-learning so it should be approached with caution (Wong, 2007). Researchers such as Cengiz & Deniz (2005), however, argue that an e-learning system that is viable provides an excellent solution for a country facing a lot of pressure due to increased enrolment demand but without the capacity to absorb all the students in its existing institutions. E-learning is gathering widespread acceptance in Saudi Arabia and is already being taken up by universities to expand educational opportunities, particularly for women (Al-Khalifa, 2009; 2010b). Other studies also demonstrate that Saudi Arabia is in fact ready for e-learning as long as issues to do with quality of learning material, acceptability, relevance of content and connectivity are addressed (Cengiz & Deniz, 2005). E-learning therefore has the potential to increase higher education for Saudi Arabians who may be lacking access to higher education institutions because of various reasons.

E-learning could possibly be a bridge to enable women in Saudi Arabia to access higher education; however, the issue is not just about technical availability it is also about the

capability of women to benefit from such a technology. Thereby, focusing on the things people are able to do and the power they have is more important than concentrating on the things they buy or own (computer and Internet) or are offered by others (in this case e-learning) when thinking of the benefit of e-learning to women wanting to achieve an educational goal (Sen, 1983; Nussbaum, 2000). Due to the diversity of humans beings, the capabilities a person can show from using external resources are affected by three groups of conversion factors namely personal, social and environmental (Sen, 1992; Robeyns, 2005).

As such, differences would affect Saudi women's ability to convert the resource they have (e-learning) into a valuable educational achievement (on the basis of the value of education to human development, this study has considered using a valuable educational achievement term to present the idea that valuable educational outcomes might be achieved by women using e-learning as a means). Thereby, it is not enough to know the goods the person own or can own to measure the well-being that he or she has achieved or could achieve, instead, you need to know a lot about the person and their living situation (Sen, 1992; Robeyns, 2005). Based on that, it will be appropriate to illustrate the ability of Saudi women to convert the opportunity offered by e-learning to achieve their higher educational goals.

#### **1.4. Statement of the Study**

Despite cultural and religious barriers to higher education for Saudi women (AlMunajjed, 2009), female enrolment in higher education has risen, with a massive investment in the country's higher education system including specific provision for

women (see figure 1-8) (Krieger, 2007; MoHE, 2009). There has been a rise from a mere seven universities about a decade ago, to thirty three universities including seven private today (see table 4-1) (MoHE, 2013a).

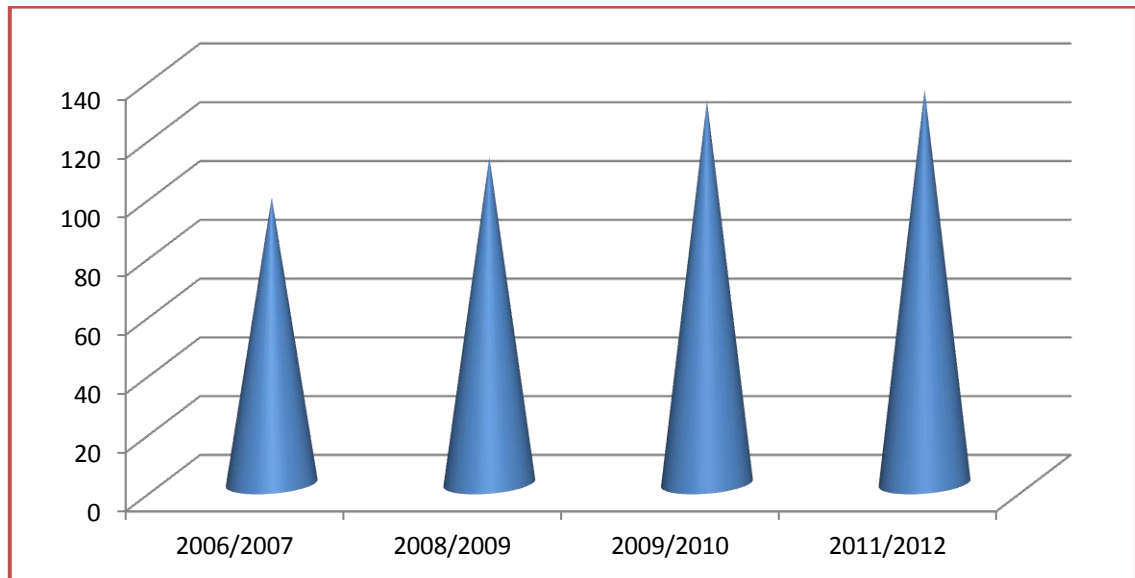


Figure 1-8: Saudi female enrolment at university for a bachelor's degree for the years 2006/2007, 2008/2009, 2009/2010 and 2011/2012 (in thousands)

(Source: <http://www.mohe.gov.sa>)

However, opportunities are still limited because of the restrictions of access put upon women (Al-kahtani et al., 2006; World Bank, 2009). Women may not attend university due to an early marriage, mobility restriction or because their family does not support their attendance, but largely, universities are effectively inaccessible to women as they need to be taken by a male relative and the distance can also be impractical (ibid). According to Mirza (2008), the number of Saudi women accessing higher education is limited by society's strong adherence to Islamic traditions which advocate for gender-based segregation. He also explains that belief in these old traditions, and especially the issue of segregation of genders which is one of the strongest traditional values and

religious beliefs among Muslims, has affected women's accessibility to higher education and has even determined the courses women can pursue while at the university as they cannot attend those courses which are also attended by their fellow male colleagues or which are taught by male lecturers.

Saudi Arabia is considered to be one of the developing countries that has made rigorous efforts to bring its society into the information era by investing in information technology (IT) and integrating it into various sectors including the education sector (Mirza, 2008). E-learning is one innovation introduced by some Saudi universities alongside with the E-learning Centre that could assist in expanding educational opportunities for female learners at higher education level in Saudi Arabia (Al-Khalifa, 2009; 2010b). This shows that providing access to higher education to women as well as implementing e-learning in a culturally sensitive environment is challenging but possible (Wong, 2007; Milani, 2008; MacKeogh and Fox, 2009). This indicates that the implementation of e-learning is affected by cultural issues in developing countries, not only by financial or technical issues (Mohamed et al., 2008). Understanding the ability of Saudi women to take advantage of e-learning to achieve their higher educational goals is also important when such technology is implemented (Sen, 1990), so focusing on the things women are able to do rather than on the things they own or are offered by others is the main goal of this study (Sen, 1985; 1999; Robeyns, 2003b), which will seek to achieve it by focusing on their ability to access and use e-learning freely.

## **1.5. The Capability Approach and the Grounded Theory**

In this study, the capability approach (CA) and the grounded theory (GT) are applied to feed and support each other in order to identify the dimensions that would empower or prevent Saudi women's freedom to access and use e-learning efficiently as a method to attain a valuable educational outcome. Both of them will briefly be discussed below (for more information cf. chapter two and seven; section 6.4.3).

### **1.5.1. The Capability Approach**

The capability approach is used to guide the theoretical insight of this study and as its foundation and inspiration. The capability approach was introduced for the first time in 1979 by the economist philosopher Amartya Sen, who argued that focusing on the capability of human beings is more important than the primary goods they possess (Sen, 1980; 1983; 1992; 1999). Since that time, the capability approach has been significantly developed by Sen, philosopher Martha Nussbaum and others such as Alkire and Robeyns, to become a new theoretical framework for welfare, development and justice (Robeyns, 2003a; Alkire, 2005). During the past three decades, the approach has been applied and it received considerable attention in different disciplines in academia and policy making such as development studies, political philosophy, public health, education and gender studies (Robeyns, 2006). Knowing what *"people are able to be and to do, and not on what they can consume or on their incomes"* is the main focus of the capability approach (Robeyns, 2003, p. 62). The capability approach is therefore *"a general approach, focusing on information on individual advantages, judged in terms of opportunity rather than a specific design for how a society should be organised"* (Sen, 2009, p. 232). It offers a framework to

evaluate the quality of life that individuals are actually able to achieve (Iversen, 2003; Robeyns, 2005). Sen argued that people's ability to help themselves is increased when they have increased freedom as it gives them more opportunities to achieve their goals (Sen, 1999; 2009). He also added that the more people are responsible for their own lives, the more they can determine their own well-being and decide the path they will take to achieve this, based on deploying their own capabilities (Sen, 1999). Thereby, in order to expand people's valuable freedoms, they should be seen as agents instead of patients and left to make their own decisions and run their own lives (Sen, 1999; Alkire and Deneulin, 2009). As Sen argues, the members of any society should actively decide what to take forward and what to leave behind (Sen, 1999). Supporting this view, Nussbaum (2000) said that when a person is offered an opportunity to do something they need to have the power to perform that duty.

#### **1.5.2. The Grounded Theory**

The grounded theory is used along with the capability approach to analyse the data that was collected on the field in order to develop practical capability approach dimensions. The grounded theory was first described by Glaser & Strauss (1967) as the process used to discover theory from data systematically acquired from social research. The grounded theory can be used as a method of analysis where data requires constant comparison (Strauss & Corbin, 1990; Mills et al., 2006) and the researcher identifies properties and categories developed from continuous comparison of data (Fernández, 2004). A pattern or category evolves from the data analysis and may stand as a concept or theory on its own (Strauss & Corbin, 1990). The grounded theory entails the coding of data, which is one of its most central processes

(Mills et al., 2006; Bryman, 2008). Glaser & Strauss (1967) developed various coding techniques, including open, axial and selective coding, which were all used in this study. The grounded theory therefore is *“a style of qualitative analysis that includes a number of distinct features namely theoretical sampling, constant comparisons and the use of a coding paradigm to ensure conceptual development and density”* (Strauss, 1987, p. 5).

### **1.6. Research Aim and Questions**

The research aims to shed some light on the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement through the perspective of the capability approach (CA), while drawing from the grounded theory (GT). Thereby, the following questions will be considered in order to achieve this aim:

1. What are the dimensions that characterise the capability requirements to apply the uptake of e-learning in Saudi Arabia by women?
2. Which factors affect the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement?
3. How can we combine practical and theoretical strands to develop practical capability approach dimensions in a distinctive context?

### **1.7. Thesis structure**

The structure of this thesis consists of ten chapters, which are as follows (see figure 1-9):

**Chapter one** discusses general information about Saudi Arabia which is introduced through several different topics including: country, society, education system,

women's education and e-learning. In addition, it presents the motivation, background, statement, purpose and questions of this study as well as its structure. The capability approach and the grounded theory are also introduced briefly.

**Chapter two** covers the first part of the literature review which is the capability approach, by discussing Sen and Nussbaum's capability approach through different sections including: history, concepts, and criticisms. It also introduces the applications of the capability approach in general and its study application in particular as well as examining the process of selecting dimension.

**Chapter three** covers the second part of the literature review which is women and society in Saudi Arabia, by considering several different aspects including: the state of women in Saudi society and the Holy Book of Muslim (Qur'an) as well as their comparison in both.

**Chapter four** covers the third part of the literature review which is women's higher education in Saudi Arabia, by considering several different aspects including: history, pedagogy, teaching methods, barriers and movement.

**Chapter five** covers the fourth part and last part of the literature review which is e-learning in Saudi higher education, by considering several different aspects including: information regarding e-learning in Saudi Arabia through different sections which are its history, online programmes currently used in higher education, the internet, e-learning and gender, challenges of e-learning and limitation.



**Chapter six** discusses the theoretical framework, the research philosophy and the design and approach of the study. It also introduces the methods that were used in sampling, collecting and analysing data to fulfil the purpose of the study.

**Chapter seven** discusses the analytical framework, the method of selection of dimensions and the analysis process of the capability approach and the grounded theory. It also explains the role of analysis process played by NVivo, the grounded theory evaluation process and data analysis challenges.

**Chapter eight** discusses the outcomes of the data analysis by introducing the finding of the dimensions through their impact on each other, with some extracts from interviews to demonstrate these impacts.

**Chapter nine** discusses the role these conversion factors and their dimensions played in affecting women's abilities in terms of the capability approach and the feminist theory perspective, with links to related literatures.

**Chapter ten** concludes this study by discussing how it addresses its questions as well as its contribution to knowledge, its evaluation and its limitation. Recommendations, future research and reflection are also discussed.

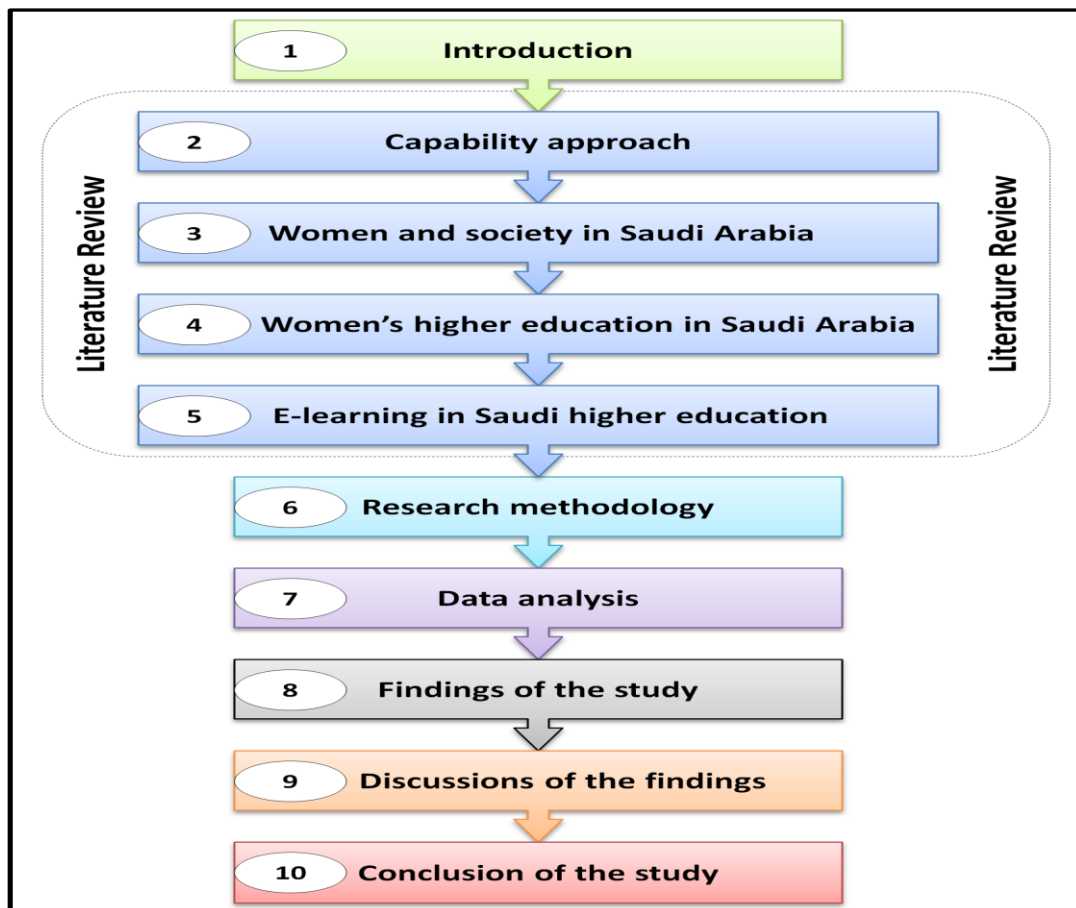


Figure 1-9: Thesis Structure

### 1.8. Summary

A summary of the key sections for this research project has been introduced by outlining the aims and questions of the research. As Saudi Arabia is the context of this study, various informative points have been highlighted and discussed including the country, society, the education system, women's education and e-learning. The study background and statement have been discussed. The next chapter will review the first literature, which is connected to the capability approach, related to this research by analysing it from different aspects as it is the guiding theoretical framework in this study.

## 2. Capability Approach

As the capability approach is the guiding theoretical framework in this study, it is necessary to discuss Sen and Nussbaum's capability approach through different sections including history, concepts, and criticisms. It also introduces the applications of the capability approach in general and its study application in particular as well as examining the process of selecting dimension.

### 2.1. History

The capability approach was introduced for the first time in 1979 by the economist philosopher Amartya Sen in his Tanner Lecture titled *Equality of What?* (Sen, 1980; Lozano et al, 2012), before being further elaborated on in subsequent publications during the 1980s, 1990s and 2000s in various different disciplines (e.g. Sen 1980; 1983; 1992; 2009). Sen has tried to go beyond John Rawls' theory of justice by arguing that focusing on the capability of human beings is more important than the primary goods they possess (Sen, 1980; 1983; 1992; 1999), for he says that the capability approach can be seen "*as one possible extension of the Rawlsian perspective*" (Sen, 1983, p. 164). In the 1980s, the capability approach was applied to welfare economics when Sen attempted to bring together a variety of thoughts formerly ruled out from or poorly created in the conventional approaches to welfare economics (Robeyns, 2000). Since that time, the capability approach has been significantly developed by Sen, philosopher Martha Nussbaum and others such as Alkire and Robeyns to become a new theoretical framework for welfare, development and justice (Robeyns, 2003a; Alkire, 2005). While the capability approach was pioneered within economics by Sen, it

has been developed by both Sen and Nussbaum in complementary but not identical ways (ibid). During the past three decades, the approach has been applied and received considerable attention in different disciplines in academia and policy making such as development studies, political philosophy, public health, education and gender studies (Robeyns, 2006).

## **2.2. Sen's Capability Approach**

In 1979, Sen gave a Tanner Lecture at Stanford University and two years later a Hennisman Lecture at the University of Amsterdam (Sen, 1983, p. 160). In these lectures, Sen attempted to argue that a person's capability is the accurate way to evaluate the standard of living, rather than commodities, characteristics and utility (Sen, 1983; 1987a; 1989). In other words, the capability approach argues that concentrating on people's freedom (ability) is the correct mean to assess what they are actually worth rather than focusing on goods or utility (Babic et al., 2010). Thereby, Sen's capability approach appeared as a result of the critique of the opulence approach (revenue, goods demand) or the utilitarian approach (happiness, willingness fulfilment) which are naturally found in traditional approaches of welfare economics (Sen, 1970; 1980; 1992; 1999; Robeyns, 2000; Zheng and Stahl, 2011).

Sen's capability approach concentrates on human life not merely on some separated substances of convenience, e.g. incomes or goods that a person may have (Sen, 2009). Sen illustrates his point with the example of a standard bicycle (see figure 2-1 below) by arguing that, *"the constituent part of the standard of living is not the goods, nor its characteristics, but the ability to do various things by using that good or those*

*characteristics, and it is that ability rather than the mental reaction to that ability in the form of happiness that reflects the standard of living” (Sen, 1983, p. 160).*

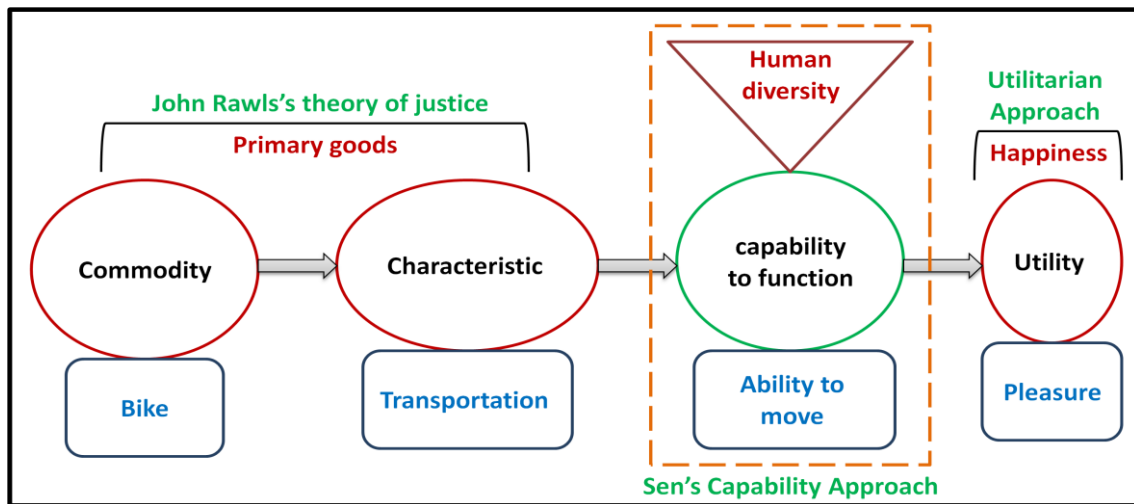


Figure 2-1: Sen’s example to illustrate the contrast between capability, commodity, characteristics and utility (Source: Sen, 1983)

As shown in figure 2-1 above, Sen’s approach distinguishes human functioning/capability (ability to cycle) from commodity (owning a bike), and the utility (pleasure or happiness derived from riding a bike) (Sen, 1983). Thereby, it is apparent that Sen’s capability approach focuses on people’s being and doings and their opportunities to realise them rather than utility or material means, but without any rejection of the important of resources for people’s well-being (Sen, 1983; Robeyns, 2003a). In other words, the expansion of people’s capability (freedom) in order to promote or achieve valuable beings and doings (functioning) is the key idea of the capability approach (Sen, 1999), it should be distinguished from the commodities employed to achieve functioning (as ‘cycling’ is distinguishable from ‘owning a bike’) (Sen, 1983). In this regards, this study seeks to focus on the ability of Saudi women to

access and use e-learning freely as it is distinguishable from their ability to own a computer and to get an internet subscription. Indeed, the capability approach offers a remarkable departure from focusing on the means of living into the real opportunities of living (Sen, 2009). In other words, Sen's capability focuses on the things *"people are able to be and to do, and not on what they can consume or on their incomes"* (Robeyns, 2003b, p. 62).

Deneulin (2006) states that Sen has built his capability approach to focus on an individual agent and emphasises on his or her involvement in order to enhance his or her freedom. The capability approach is therefore *"a general approach, focusing on information on individual advantages, judged in terms of opportunity rather than a specific design for how a society should be organised"* (Sen, 2009, p. 232). Sen's capability approach offers a framework for evaluating the quality of life that individuals are actually able to achieve, which is analysed in terms of the core concepts of 'functionings' and 'capability' (Iversen, 2003; Robeyns, 2005).

### **2.2.1. The Core Concepts**

The central concepts of Sen's capability approach are functionings, capabilities, human diversity, agency and freedom (Sen, 1992; 1995; 1999). They are discussed below:

#### **2.2.1.1. Functionings and Capabilities**

The capability approach involves a focus on *"freedoms to achieve in general and the capabilities to function in particular"* (Sen, 1995, p. 267). The main components of the capability approach are *"functionings and capabilities"* (ibid). Functionings are the *"beings and doings"* of a person, which are related to commodities and income to

illustrate “*what a person is able to do or be*” as a result (Sen, 1992, p. 40), whereas a person’s capability refers to the diverse “combinations of functionings” that can be achieved by an individual (ibid). Therefore Sen sees capability as a type of freedom (Sen, 1999, p. 75) or a set of “*vectors of functionings, reflecting the person’s freedom to lead one type of life or another*” (Sen, 1992, p. 40). Sen also states that “*A functioning is an achievement, whereas a capability is the ability to achieve. Functionings are, in a sense, more directly related to living conditions, since they are different aspects of living conditions. Capabilities, in contrast, are notions of freedom, in the positive sense: what real opportunities you have regarding the life you may lead*” (Sen, 1987a, p. 36). Thereby, the difference between capability and functioning is close to the difference between freedom and achievement or between opportunity and outcome (Robeyns, 2003b).

#### **2.2.1.2. Human diversity**

Humans are seen to be different from each other in various ways, namely their external characteristics, natural and social environments and personal characteristics (Sen, 1992, p. 1; Sen, 1999, pp. 70-71). Sen classifies the diversity between humans as empirical factors by arguing that, “*Human diversity is no secondary complication to be ignored, or to be introduced later on; it is a fundamental aspect of our interest in equality*” (Sen, 1992, p. xi). The ability to account for the diversity between humans is an important concept of the capability approach (Sen, 1992; Robeyns, 2005). The relationship between goods and the achievement of specific functionings is captured with the degree in which a person is able to transform some resources into functionings (Ibid). For example, two Saudi women have a computer and internet in

their home (resources) but they convert them into a valuable achievement (functioning) differently based on the influence of conversion factors. Thereby, the types and degrees of capabilities a person could be produced from resources are affected by three groups of “*conversion factors*”, which are as follows (Sen, 1992, p. 1; Robeyns, 2005, p. 99):

- *“Personal such as mental and physical conditions, literacy, and gender.*
- *Social such as social norms (e.g. role of women and rules of behaviour), social institutions (e.g. rule of law and political rights), and power structure (e.g. hierarchy and politics).*
- *Environmental factors such as climate and infrastructure.”*

Such differences are affecting Saudi women's ability to convert the resources (e-learning) they have into capability to function (e-learning accessibility). Thereby, it is not enough to recognise the commodities people own or can own to assess the welfare they have attained or could attain, you need to know much more about them and their living situation (Sen, 1992; Robeyns, 2005, Comim, 2008) (see figure 2-2).

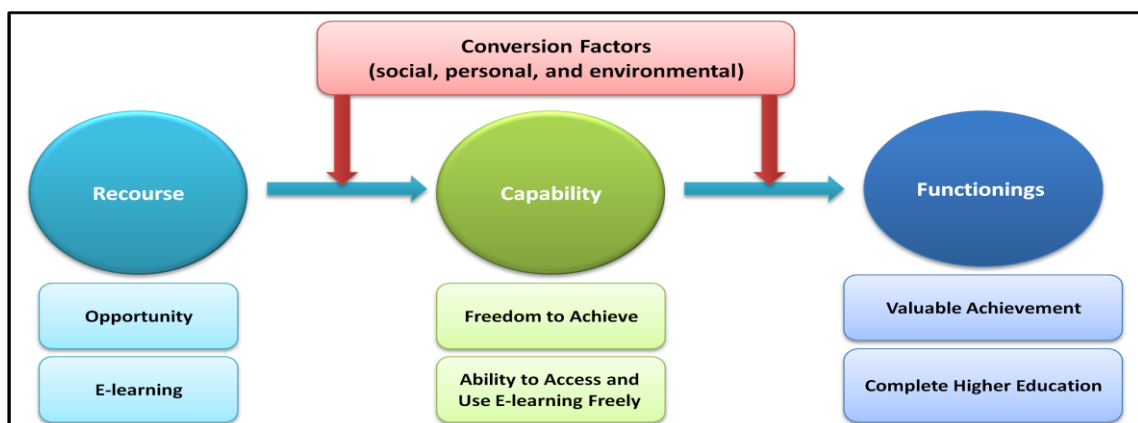


Figure 2-2: The Idea of Conversion Factors in Sen's Capability Approach

(Source: Sen, 1983; Robeyns, 2003a; 2005)



### **2.2.1.3. Agency**

Sen (1999, p. 19) defines an agent as *“someone who acts and brings about change, whose achievement can be evaluated in terms of his or her own values and objectives, whether or not we assess them in terms of some external criteria as well”*. In other words, agency is one’s ability (freedom) to place and follow goal that one values and is interested in (Sen, 1985; Zheng, 2007; Walker, 2005), and the capability to identify one goals and take action upon them freely (Kabeer, 1999). According to Sen (1985) and Peter (2003), taking agency as one of the constitutive features of the person would strengthen the role of freedom in social evaluation. In other words, the presence or absence of well-being is merely a concern if a person is viewed as a ‘patient’ who is forced (oppressed or passive) to complete his or her aspirations, which is the opposite of the ‘agent’ who is viewed to be active, creative and able to act on behalf of his or her ambitions (Sen, 1985; Robeyns, 2000; Zheng, 2007). The more people are responsible for their own lives, the more they can determine their own well-being and they decide the path they take to achieve this, based on deploying their own capabilities (Sen, 1999). Thereby, in order to expand people’s valuable freedoms, they should be seen as agents instead of patients and left to make their own decisions and run their own lives (Sen, 1999; Alkire and Deneulin, 2009). As Sen argues the members of any society should actively decide what to take forward and what to leave behind (Sen, 1999). According to Sen (1985, p. 203), it is necessary to know the *“aims, objectives, allegiances, obligations and concept of good”* in people’s life in order to understand their agency or ability to pursue their goals and whether they have achieved them successfully. This study therefore takes this into account and deals with

women as agents rather than patients in order to increase their freedom. The agency aspect is important in order to assess what an individual can achieve on the basis of what they see as worthy (Sen, 1985). Therefore, the capability approach, which is applied in this study, does not treat human beings as passive but it treats them as active agents who can be the creators of their own lives.

#### **2.2.1.4. Freedom**

Sen (1999) believes that people's ability to help themselves is increased when they have increased freedom and this is central to the degree of development achieved by individuals. In the capability approach, freedom is concerned as it is *"the real opportunity that we have to accomplish what we value"* (Sen, 1992, p. 31). According to Sen (2009), freedom is valuable because firstly, more freedom gives people more opportunities to attain their goals, *"those things that they value"*. This aspect of freedom concerns the ability of people to attain what they value rather than the process of achievement. Secondly, the importance of the process of choice itself that people follow to pursue what they value in order to make sure that they are not forced into situations because of restrictions imposed by others. Thus, Sen divides freedom to two aspects, namely opportunity and process (ibid). As women in Saudi society are forced to do what their men want them to do rather than live the way they would like to, both aspects (opportunity and process) of freedom are applied to evaluate the ability of Saudi women to achieve their educational goal via e-learning in this study.

### **2.2.2. Criticism**

Since its inception, Sen's capability approach has been gaining support among academics, non-governmental and international organisations and enduring criticism (Sugden, 1993; Rawls, 1999b; Pogge, 2002; Robeyns, 2003a; Clark, 2006). Sen's capability approach has played a major role in normative economics and political philosophy, coming to prominence at the expense of competing Utilitarian and Rawlsian approaches (Pogge, 2002). Alkire (2002) asserts that one of the strengths of Sen's capability approach is its non-subscription to a specific or definitive list of capabilities. According to Sen (1999), the selection and weighting of capabilities varies from individual to individual, as it is a function of the judgement of individual values. This has earned Sen's framework a considerable degree of flexibility and internal pluralism, as it can be applied by researchers to many different contexts (Alkire, 2002, Clark, 2006).

In other instances, supporters of Sen's capability approach have also argued that this approach rather than treating individuals as mere means to economic activity, recognises human heterogeneity and diversity, and refocuses them as ends in themselves, thus creating a wider base of evaluation (Clark, 2006). This is consistent with Robeyns (2003a) who contends that Sen's approach brings to the fore the normative or ethical individualistic theories where the capabilities and functionings are seen as properties of individuals. Researchers agree that Sen's capability approach acknowledges the different diversity amongst humans with respect to gender, age, race, ethnicity, geographical location or disability (Alkire, 2002; Robeyns, 2003a; Clark, 2006). Thus support for Sen's approach has also come from his explicitly admonishing

inequality approaches that assume that all individuals have or require one and the same function/utility (Robeyns, 2003a).

In spite all of the support that Sen's capability approach has received among philosophers, it has also faced certain criticisms by some other philosophers and scholars who are sceptic in general or critical of specific points of his work. For instance, Sen's capability approach has been called "*an unworkable idea*" for a liberal idea of justice by John Rawls (1999b, p. 13), while it was criticised for being not adequately specified by Roemer (1996). In an attempt to unveil the nature of a 'capability', Williams (1987) questioned what is meant by a 'capability' as he argued that the relationship between 'capability' and 'choice' is unclear. This argument is based on the premise that without the option to choose it, a capability cannot exist (Kleist, 2010).

In some cases the supposedly key strengths of Sen's approach are being critically interpreted as key weaknesses (Clark, 2006). For instance, the absence of capabilities list in Sen's approach whilst being one of its strength, as argued by a host of Sen's supporters (Alkire, 2002; Clark, 2006; Robeyns, 2003a), has also created a lot of attention and argument among authors. Sen's approach has majorly been criticised for its absence of a coherent identifiable list of capabilities (Williams, 1987; Nussbaum, 1988; 2003). According to Sugden (1993, p. 1953), this puts a caveat on "how far Sen's framework is operational". The philosopher Martha Nussbaum has been a famous voice arguing that Sen should support such definite list of central human capabilities (Nussbaum, 1988; 2003) and also reasoned that Sen's failure to support a specific list

leaves his approach open to use which might be incompatible with the purposes for which it was developed and the possibility of expanding the wrong freedom such as it might be used to endorse gender injustice by writing that *“capabilities can help us to construct a normative conception of social justice, with critical potential for gender issues, only if we specify a definite set of capabilities as the most important ones to protect. Sen’s ‘perspective of freedom’ is too vague. Some freedoms limit others; some freedoms are important, some trivial, some good, and some positively bad. Before the approach can offer a valuable normative gender perspective, we must make commitments about substance.”* (Nussbaum, 2003: 44). She also maintains that an exact list of central capabilities is vital in ensuring that the capability approach is reliable (ibid). However, Sen rebutted this critique by arguing that *“the problem is not with listing important capabilities, but with insisting on one predetermined canonical list of capabilities, chosen by theorists without any general social discussion or public reasoning. To have such a fixed list, emanating entirely from pure theory, is to deny the possibility of fruitful public participation on what should be included and why”* (Sen, 2004, p. 77). He also argues that the remaining incompleteness is truthful rather than unacceptable because *“babbling is not, in general, superior to being silent on matters that are genuinely unclear or undecided”* (Sen, 1992, p. 134). Indeed, Sen does not look for an inclusive ordering of non-negotiable choices (Walker, 2005) and has intended it to be applied to an extensive range of goals (Sen, 1993; Robeyns, 2005; Zheng, 2009), so Sen has deliberately left his approach incomplete. In this regard, incompleteness is fundamental to Sen’s capability approach (Walker, 2005; Robeyns, 2005) as he does not want to tell scholars what they should do or believe on the issue they are studying,

he just wants to offer them a tool that would help them to do so by themselves (Robeyns, 2013). Alkire explains how the incompleteness of Sen's capability approach is not a dilemma, contrary to what his critics think. Instead it gives the opportunity for judgments to be made during the study rather than prescribed from a theoretical standpoint in advance and that this is what Sen means when he refers to its "fundamental or assertive incompleteness" (Alkire, 2002, p. 127). This study is in line with Sen's way of leaving his approach open by arguing that there is always new capability that can come up when we are looking at specific areas such as the adoption of e-learning (in this case the ability to access and use e-learning freely).

The belief of the individualism of Sen's capability approach has brought a further critique on its approach (Zheng, 2009), as it emphasises the effective freedom of individuals as its focal concern (Robeyns, 2003a; 2005). According to Gore (1997), the capability approach takes into account all the conditions and social organisation and then considers how they affect an individual's freedom and well-being. The approach, however, excludes any goods and things that are viewed as social and cannot be made individual. Another criticism that is presented is that the emphasis of Sen's on individual freedoms fails to establish how each person's freedom will affect others. An example of this is given by Nussbaum (2003) who explains that any society requires balancing and limitations of certain freedoms. These include for example freely expressing racist views. A society needs to identify which freedoms are good and which are bad and need to be regulated (Nussbaum, 2003). However, Robeyns (2003a, pp. 44-45; Robeyns, 2005, p. 99) argues that it would be adequate *"to say that Sen clearly takes into account the social environment and societal structures when he firstly*

*distinguishes between functionings and capability, and secondly understands the conversion factors from goods to functionings*". Comim (2008, p. 163), supports this view when he states that individual is *"the formal reference element of the capability approach, but in practice Sen quite often demonstrates his approach by using group or country level data"*, so both individual and social measure can be applied.

### **2.3. Nussbaum's Capabilities Approach**

In an attempt to complete the capability approach presented by Sen, one of the influential attempts has been presented in the works of the philosopher Martha Nussbaum (1990; 1995; 1998; 1999; 2000; 2002; 2011). Nussbaum's capabilities approach can be defined as *"an approach to comparative quality of life assessment and to theorizing about basic social justice"* (Nussbaum, 2011, p. 18), so her approach is looking at quality of life comparatively alongside basic social justice (ibid). She describes her own version of capability as *"to work in constructing a theory of basic social justice, adds other notions in the process (those of human dignity, the threshold, political liberalism)"* (Nussbaum, 2011, p. 19). This approach has offered a universal framework for the assessment of women's quality of life and concentrated on addressing gender inequality for women within the global development agenda. In other words, it emphasises *"the measurement of quality of life and the development of public policy"* (Charlesworth, 2000, p. 65).

The capability approach of Nussbaum has its foundations in Aristotelian ethics stimulated by the work of Sen. According to Clark (2006), this sets the notable difference between Sen's and Nussbaum's approaches as the Nussbaum's capability

approach draws explicitly on the arguments of Aristotle on a truly human life and its perfectionist requirements (Nussbaum, 1988; 1990; 1995; 1998; 1999; 2000). Robeyns (2003a) added that the key difference in both approaches can be understood better by reflecting on Sen's and Nussbaum's academic fields and expertise. While Nussbaum's root can be traced to the philosophy of the good life and constitutional design, Sen is known to be rooted in the social choice field, which believes in fair and consistent democratic procedures (Robeyns, 2003a). Thus, Nussbaum stresses human dignity while Sen emphasises the improvement of individual freedom (Wells, 2012).

Nussbaum's approach attempts to come up with a comprehensive approach that will fully express people's powers as she argues that a person is offered an opportunity to do something and needs to have the power to perform that duty (Nussbaum, 2000; Robeyns, 2003a; 2005; Skerker, 2004). She intends to *"develop a partial theory of justice by arguing for the political principles that should underlie a constitution, so she enters her approach from a moral-legal-political philosophy perspective"* (Robeyns, 2005, p. 103). Drawing greatly on Aristotle, Nussbaum developed a specific list of *"central human capabilities"* (Nussbaum, 1995; 2000, p. 72; Clark, 2006, p. 6), the titles of this list are: *"(1) Life; (2) Bodily health; (3) Bodily integrity; (4) Senses, imagination and thought; (5) Emotions; (6) Practical reason; (7) Affiliation; (8) Other species; (9) Play; and (10) Political and material control over one's environment"* (Nussbaum, 2000, pp. 72-75; 2003, pp. 41-42). According to Nussbaum (2000), the above list highlights the most centrally important human capabilities leaving us to then identify additional capabilities chosen by the subject (Nussbaum, 2000). She also states that her ten capabilities cannot trade off (the question of indexing or weighting the different



capabilities on the whole assessment) against each other as it is very important for each citizen to get a minimum threshold of each capability. So she does not allow the possibility of a trade-off between them which is in contrast with what Sen believes (Nussbaum, 1999; 2000; Robeyns, 2006). She distinguishes three kinds of capabilities which include: (1) “*basic capabilities*” which are the innate abilities of individuals, (2) “*internal capabilities*” which are the situations a person is in that allow him/her to use a particular capability, if the conditions and restrictions allow this practice and (3) “*combined capabilities*” which are the internal capabilities together with the external conditions that successfully enable the person to practice the capability such as her list of central human capabilities (Nussbaum, 1998, p. 775; 1999, p. 237; 2000, pp. 83–85; 2005, p. 313).

In order to support her theory and concepts, Nussbaum has criticised feminist researchers such as Judith Butler by referring to her work as “unoriginal” (MacKenzie, 2009). According to Nussbaum (1999), Butler attempts to misguide people into adopting a bad stance characterised with retreat. In her view, Butler does not provide meaningful thoughts in relation to the political programme she developed. Nussbaum asserts that Butler’s arguments are false since they neglect society’s norms and the available material facts. According to Nussbaum (1999), Butler’s argument deviates from practicality and in turn creates resistance. The author points out that Butler’s feminist thinking appears to be in support of the belief that feminist politics can be enhanced through the use of subversive language that only leads to obscurity and abstractness. As part of her disagreement with Butler’s assertions, Nussbaum (1999)

argues that feminism should be based primarily on the practicality of the political programme.

In an argument by Kirby (2006), Butler's argument was termed as noble, however, the author opined that an improvement on the political programme may be necessary to make everything clear. In another study, Kerkwijk (2000) supported Nussbaum's arguments but criticised the personal language used by her to dismiss Butler's arguments. It is worth noting that every programme, whether political or not, needs to be supported by theories. It can be noted that the arguments presented by Nussbaum in criticism of Butler's work may be true or false, but the fact that they try to end an already developed theory leaves more to be desired (Kerkwijk, 2000; Kirby, 2006).

Nussbaum (1999, p. 227) says that *"human beings have a dignity that deserves respect from laws and social institutions"*, however this idea of human dignity is regularly violated based on gender, as various women has been treated unequally all over the world (e.g. in terms of health care, education, political voice, etc.) because of laws and constructs of institutions. As a result of this inequality, women start *"resisting inequality and claiming the right to be treated with respect"* (ibid, p. 227). Nussbaum has interestingly focused on women's development, moral theory and justice in order to create a greater awareness of the female context (Nussbaum and Sen, 1993; Nussbaum, 1995). She has developed a theory to advance the status of women internationally, as a response to the injustices facing women in the world. She wants to empower them to be and do certain things that are more valuable in society (Charlesworth, 2000, p. 65; Marle, 2003). In this regard, she has introduced her list of

central human capabilities and uses it as the foundation to creating fundamental political principles and measuring the situation of women in developing countries because of the lack of support that women all over the world receive for what she sees as fundamental capabilities of human life (Nussbaum, 1999). Women and human development are crucial topics in light of building a philosophical context in human capabilities. In this context, the framework and concepts are not developed to yield the complete satisfaction of women as pertaining to issues of social justice and ethics, but to evaluate the capabilities of women of the world in terms of the resources they control and how they are bound to impact on human development through what they can do and can be (Nussbaum, 2002). The core aim of this philosophical development is in the establishment of human beings as dignified free beings with the power and authority to shape their lives. Thereby in this study, Nussbaum shares her concerns regarding the situation of women in Saudi society by focusing on the enhancement of their power to be and do whatever they want (in this case access and use e-learning freely).

### **2.3.1. Criticism**

Like Sen, Nussbaum's capability approach has also earned a considerable amount of support and criticism since its inception. One of the key strengths of Nussbaum's capability approach, as noted by her supporters, is in the development and subscription to a definitive central list of human capabilities (Gasper and van Staveren, 2003; Robeyns, 2003b). Robeyns (2003b) noted that Nussbaum's approach argues for an incorporation of her list into all government constitutional entities, making her approach to capability universalistic. According to Jaggar (2006: p. 301), "*Nussbaum's*

*approach contributes to a theory of justice, since it identifies the primary goods available for just distribution and sets a threshold that must be reached by all citizens before any society can be considered just.*" From another perspective, some researchers argue that the capability approach by Nussbaum is more attentive to the skills and personality traits (thoughts and emotions, and meaning and action) of individuals as aspects of capabilities (Gasper and van Staveren, 2003; Robeyns, 2003b).

Though Nussbaum developed serious criticism for the work of other researchers such as Judith Butler and Sen, to support her approach, her argument in relation to the capability approach has also faced significant criticism from other philosophers. Nussbaum's capability theory of justice has been criticised by Sen and others because of its definite list of valuable capabilities. Sen (2004, p. 80) argues that, *"I have nothing against the listing of capabilities but must stand up against a grand mausoleum to one fixed and final list of capabilities"*. This implies that Sen is not against the listing of capabilities per se, but seeks to avoid a prescriptive list which will prevent a study adapting and changing as more knowledge is gained and further capabilities might be seen as important and would need to be included to give the study validity. He stresses that the task of the democratic process is in the selection of capabilities themselves as well as the purpose of using these lists, the conditions of society and their priority are strong indicative of the requirement of making different lists of capabilities, so it would not be sufficient to make one final list of capabilities (ibid). He strongly believes that theory alone cannot provide a definitive list of capabilities for all societies now and in the future, when he states that *"pure theory cannot 'freeze' a list of capabilities for all societies for all time to come, irrespective of what the citizens come to understand and*

*value. That would not only be a denial of the reach of democracy, but also a misunderstanding of what pure theory can do.*" (Sen, 2004, p. 78). Robeyns (2003b; 2005) worries about the lack of democratic legality in the creation of Nussbaum's list of central human capabilities, as she is not authorised to talk on behalf of those people who would provide the information to create the list. However, Nussbaum responds to this critique by emphasising that her list is a modest and unlocked one which is constantly open for revision (Nussbaum, 1999; 2003; Robeyns, 2003a, p. 38), and justifies her list by arguing that *"each of these capabilities is needed in order for a human life to be proffered the dignity of a human being"* (Nussbaum, 2000, p. 72). She also further advocates these capabilities as being the ethical right of all people on earth (Nussbaum, 2003). This implies that it is possible to modify and extend Nussbaum's list of basic human capabilities to meet the human capability requirements, which is in line with what this study attempts to do. Crocker (2004) as cited by Robeyns (2005) criticises the very restricted roles of democratic agency in Nussbaum's approach of capabilities. Robeyns (2005), comments on Nussbaum's explanation that her work provides people with a set of capabilities that citizens have the right to anticipate from their own government (Nussbaum, 2003), which indicates that they must be provided in the constitution without citizen participation. However, Sen (1993) and Robeyns (2005) argue that the discussion and issuing policies for any capabilities (such as inequality) should not be done by the government alone without including the people who are affected by these policies as it should come from the people based on human rights.

Additionally, by referring to Nussbaum's capabilities approach as being authoritarian, Jaggar (2006) pointed out that it seems that the final authority on evaluation of the moral worth of individuals strongly belongs only to those in power. This is problematic as those with intuitions outside the capabilities list will possibly be dumped. Another criticism would be that Nussbaum does not approve of the distinction between well-being and agency as she argues that *"all the important distinctions can be captured as aspects of the capability/functioning distinction"* (Nussbaum, 2000, p. 14). Menon (2002) proposes that her theory does not adequately permit for agency in its varied aspects. Nevertheless, Nussbaum argues that *"practical reason has a role that goes beyond its direct contribution to well-being, so the practical reason exercise is perhaps a core site of agencies in her approach"* (Robeyns, 2003a, p. 26; 2005, p. 105). In a study by Gilabert (2013), it was pointed out that Nussbaum's approach is overly focused on optimism and elitism in relation to governments and constitutions, thus failing to take into account other important capabilities. According to Robeyns (2005) the criticism witnessed on Nussbaum's work can be attributed to her quest to impose a defined capability approach theory to the audience. However, Nussbaum (2011) argues that her theory does not impose anything as far as the principles of capability approach are concerned. As cited in Alexander (2008), Nussbaum's philosophical contributions on capability approach are highly significant since they provide a platform for the development of capability approach frameworks.

In light of the above, it is therefore apparent that Nussbaum is motivated to establish the foundations of human dignity in contrast with Sen who emphasises on the enhancement of individual freedom. In addition, Nussbaum's capabilities approach is

more limited than Sen's approach and her approach emphasises legal and political rather than socioeconomic approaches, so it is valuable at a political level (Alkire, 2002). Based on the above discussion, the disagreement between Sen and Nussbaum regarding the list of central human capabilities and whether they should be identified or not, this study stands in the middle of this debate between them. It argues that it is possible to determine a list of basic human capabilities as Nussbaum did, but that it should be flexible so that it can be modified and extended by people based on their situation and requirements as Sen stated. In this regard, this study asserts that the need to adjust and expand the basic human capabilities that Nussbaum came up with is required because they are changeable from one environment/generation to another. For example nowadays, technology indeed becomes one of the basic capabilities for the modern generation. Thereby, the adoption of e-learning necessarily becomes a new capability when looking at the innovative way people are learning, which this study tends to do by identifying the dimensions that characterise the capability requirements that apply to women using e-learning in Saudi Arabia.

Therefore, both of Sen's and Nussbaum's capability approaches are adopted in this study. In this regard, Sen's capability approach is applied to support the following aspects of the study:

- Concentrates on enhancing Saudi women's freedom (ability) to achieve their educational goal via e-learning through focusing on both aspects of freedom (opportunity and process).
- Attempts to illustrate the dimensions that characterise the capability requirements that apply to women using e-learning in Saudi Arabia.

- Efforts to identify and explore the role of conversion factors that would be played in converting the opportunities offered by e-learning (resource) to valuable educational achievements (functionings).
- Explicitly seeks to deal with women as agents rather than patients.

Whereas, Nussbaum's capability approach is applied in this study to support the claim of equality between genders and to empower women to be and do the things that are valuable to them and society as well as to enhance their living in dignity.

#### **2.4. Capability Approach vs Utilitarian and Rawlsian Approaches**

The debate between Utilitarian approach and the capability approach is primarily based on the argument presented by Sen which focuses on the ability of individuals to achieve the quality of life which they have reasons to value (Sen, 1979; 1980). However the two approaches base their arguments on normative ethics, the capability approach differs from utilitarianism which solely focuses on prejudiced well-being or the availability of means to achieve good life (Sen, 1979; 1980; Comim, 2008). Sen's capability approach rejects the basic pillars of utilitarianism emphasised in welfare economics (Sen, 1979; 1999). According to Sen (1999), utilitarianism is mainly concerned with welfare maximisation within a society, but gives no importance to resource distribution. However, the author points out that utilitarianism is generally perceived important by individuals whose welfare is under consideration. Renouard (2011) states that liberal philosophers including Rawls and Sen have clearly agreed that utilitarianism does not give enough credit to the differences that exist between individuals. Sen (1980) asserts that the varied level of ability between individuals



would encourage uneven distribution of resources by concentrating around the individuals who are efficient resource-utility convertors. The author also asserts that utilitarianism concentrates on the outcomes of the available resources (utility or happiness) rather than the process used by people to achieve such welfare, which should not be ignored. As such, the utilitarianism fails to acknowledge that different individuals have different levels of ability to transform available resources into welfare (Sen, 1992; 1999).

John Rawls (1999a; 2001) has focused on theories that are related to distributive justice, fairness and equality. However, these theories seem to be impractical and illogical in the present world as per the views of philosopher and Nobel laureate in economics Amartya Sen. In his opinion, it is not the goods that are ultimately important, but the capabilities of a person to use such goods in a proper manner, so providing the resources that are suitable to exploit the capabilities of a person is what is required to ensure distributive justice (Sen, 1980; 1999; 2009). However, Sen states that *"I am entirely persuaded by Rawls that fairness is the underlying concept that helps us to understand the demands of justice"* (Sen, 2010b, p. 241). As such, Sen agrees with Rawls in the value of fairness to recognise justice requirements. This implies that Sen does not however tend to challenge Rawlsian theory of justice as a whole as he only criticises its focus on primary goods without denying its importance by arguing that Rawls only concentrated on the primary goods themselves but ignores the ability of people who are using these goods to attain their goals and how these goods influence them (Sen, 1980; 1983; 1992; 1999; 2009). Sen also criticises Rawlsian approach and its narrow scope as it excludes many elements from its scope of justice

compared to the capability approach, such as health disadvantages as well as social and personal variations (Banerjee and Canda, 2012).

The inability of the Rawlsian approach to take into account people's differences in their capability to convert the primary goods into what they want to be and do in their life is another critique set by Sen (Sen, 1990), as he argues that *"the primary goods approach seems to take little note of the diversity of human beings. ... If people were basically very similar, then an index of primary goods might be quite a good way of judging advantage. But, in fact, people seem to have very different needs varying with health, longevity.... So what is involved is not merely ignored a few hard cases, but overlooking very widespread and real differences."* (Sen, 1980, pp. 215-216). As such, for example, providing a laptop in the hands of a person who does not have any idea or skills regarding using it, is not a good idea to ensure distribution justice. However, Rawls responds to this critique by stating that *"everyone has physical needs [and] psychological capacities within the normal range"*, so he excludes people with physical or mental inability from his approach (Rawls, 2001, p. 170), and he also argues that to make his approach attractive to enable people it should be applied in *"normal cases"* (Rawls, 1999a, p. 84). The proponents of resourcism argue that the capability approach cannot fully enhance equality due to its lack of consideration to facts related to human diversity (Pogge, 2002; 2010). Pogge (2002; 2010) states that human diversity facts such as differences in social environment and variations in relational perspectives can be addressed through the use of resourcism. He also argues that the argument put forward by the proponents of the capability approach, that human diversity is a purely natural aspect, may not hold. According to Pogge (2002; 2010), human diversity is a

product of personal heterogeneities caused by inequality of accessibility to available resources.

According to Sen (1990, p. 112), Rawls assumes that the capability approach *“goes against political liberalism”* as a part of his defence against the critique of his approach. Unlike the Rawlsian theory, the capability approach therefore attempts to go beyond the concentration on primary goods to how these goods affect human beings and taking into account individual’s diversity (Sen, 1980; 1983; 1992; 1999; 2009). Despite the critique that the Rawlsian theory has faced, Sen argued that resource distribution is an important aspect to consider when undertaking processes related to procedural fairness and considered his capability approach as an extension of the Rawlsian approach by saying that *“the focus on basic capabilities can be seen as a natural extension of Rawls’s concern with primary goods, shifting attention from goods to what goods do to human beings.”* (Sen, 1982, p. 368). In addition, according to Sagovsky (2006, p. 70), Sen agrees with Rawls that participatory democracy is the best vehicle to realise their idea of justice and freedom.

In light of the above, unlike the capability approach, both of Utilitarian and Rawlsian approaches emphasise the importance of outcomes and resources respectively rather than the importance of individuals’ freedom and the differences among them, which should not be ignored. As such, the Sen’s capability approach appeared as a result of the critique of the Utilitarian and Rawlsian approaches (see figure 2-1) (Sen, 1970; 1980; 1983; 1992; 1999; Robeyns, 2000; Zheng and Stahl, 2011). Nussbaum also builds her approach of capability based on the critique of the Rawlsian theory of justice, as

she points out that the capability approach can be seen as *“an extension of or complement to Rawls’ theory”* (Nussbaum, 2006, p. 69). Thereby, Rawls’ approach attempts to design a process that has got specific elements of fairness leading to produce adequate outcome of justice, which is in contrast with the capability approach as it attempts to create a process that can attain that outcome (Nussbaum, 2006; Sharkey, 2014).

## **2.5. Applications of the Capability Approach**

The incompleteness and vagueness of the capability approach might indicate the difficulty of operationalising it in practice (Zheng, 2009), but many efforts have been made to apply the capability approach because of its broad scope, so it comes in a variety of forms in its practice which can be prominently applied in *“development studies, welfare economics, social policy and political philosophy”* (Robeyns, 2005, p. 94; 2006, p. 351). Robeyns (2006, pp. 360-361) has given nine different types as an example of existing capability applications: *“(1) general assessments of the human development of a country; (2) the assessment of small scale development projects; (3) identification of the poor in developing countries; (4) poverty and well-being assessments in advanced economies; (5) an analysis of deprivation of disabled people; (6) the assessment of gender inequalities; (7) theoretical and empirical analyses of policies; (8) critiques on social norms; (9) practices and discourses; and (10) the use of functionings and capabilities as concepts in non-normative research”*. However, there are also other types of studies that focus on one definite capability such as health or education (ibid). Thereby, this study does not aim to apply a broad application of the capability approach but is instead limiting itself to a specific area which relates to the

ability to access and use of e-learning among Saudi women, in terms of conversion factors and their dimensions (Alkire, 2002; Robeyns, 2006).

### **2.5.1. The Capability Approach and Technology**

According to Zheng and Walsham (2008), technology can improve the well-being of people by enhancing their capabilities. However, according to Coeckelbergh (2011), ethical issues associated with technology are a major challenge when adopting technology within the society. Researchers therefore support the view that technology is the main means to reach the capabilities as the existence of the relationship between capability approach and technology is emphasised (Coeckelbergh, 2011; Kleinea et al., 2012; Oosterlaken, 2009; 2013). As such, adopting the principles of the capability approach can result in improved contribution of the existing technology towards a good life (Oosterlaken, 2009; 2013), as technology is a part of the society that works to the advantage of people.

Kleinea et al. (2012, p. 42) state that *“the capabilities approach challenges us to co-design technologies with users in a way that expands the freedom of the user to live the life they themselves value”*. In their opinion, technologies provide both freedom as well as unfreedom. In other words, technologies can be considered as drivers for and against the capability approach that enables people to live the lives they have reasons to value. Coeckelbergh (2011) supported this view by arguing that the fact that the changes that information technologies such as the internet and mobile phones create in our lives are often for the better, is not apparent. According to Coeckelbergh (2011, p. 81), the capability approach can be used as a means *“to specify a workable and*

*adequate level of analysis in human enhancement discussions*”. In his opinion, the capability approach has direct relations with the technology on one side and humans and capabilities on the other side. Thereby, blending humans and their capabilities with technology is the core of the capability approach.

Sen (1987b, p. 11) asserts that, *“Technology is not only about equipment and its operational characteristics, but also about social arrangements that permit the equipment to be used.”* Therefore, the focus in this study will mainly concentrate on the capability approach application related to the Information and Communication Technology (ICT) domain. Even though technology is not clearly mentioned in Sen’s capability approach, it is based on the importance of the information technology sector and its role in enhancing freedom for others (Zheng and Stahl, 2011). Sen has recently spoken about this issue and his focus on the ICT subject by discussing the beneficial role of the mobile phone to the expansion of the human capabilities worldwide (Sen, 2010a), so it is not hard to fit it into Sen’s approach (Johnstone, 2007; Hatakka and De’, 2011) by considering technology in general and e-learning in particular, as a means and not an end in itself to enable women to achieve their higher education goal (Sen, 1999).

Generally, the link between human capabilities and technology appears to be straightforward, however, philosophers seem to have given limited attention to the contribution of technology towards capability expansion (Oosterlaken, 2013). In this regard, scholars become quite interested in applying the capability approach in technological domains as it has not explicitly been applied in a wider range (Johnstone,

2007; Oosterlaken, 2013) and we are fairly *“new to the social studies of the Information and Communication Technology (ICT)”* domain (Zheng and Stahl, 2011, p. 72). As a result, there have been various efforts to apply the capability approach on ICT in society. One such attempt came from Madon (2004) who uses Sen’s notion of capability to go behind the conventional assessment criteria on e-governance projects in the South Indian state of Kerala. She argues that it should concentrate on what persons are able or unable to do with applications offered by ICT and how effectively they benefit from them, instead of evaluating merely expenditure, infrastructure, access and skills. Johnstone (2007) also attempts to widen the research agenda of computer ethics by drawing insights from the capability approach. The author has tried to apply the capability theory into the computer ethics field. In his opinion, the *“capability theory has a number of potential benefits that complement standard ethical theory, opening up new approaches to analysis and providing a framework that incorporates a justice as well as an ethics dimension.”* (p.73). In Johnstone’s opinion, the functionalism of the capability theory is helpful to technology ethics, and it helps the analysis of technology in a comprehensive manner. The present study on the other hand explores the ethics of preventing women from accessing technology for their educational needs. Zheng and Walsham (2008) apply concepts of the capability approach to explore how social exclusion in the e-society is able to demonstrate itself as inequalities appear in many different areas, examining how resources such as computer and information systems are converted to capabilities, opportunities for individuals to live in manners they consider important and valuable. Zheng (2007; 2009) has offered a methodical investigation of the capability approach in the

Information Systems (IS) sector by introducing an overview of the capability approach for ICT researchers, and examines various methods of applying a capability approach perspective to studying the function of ICT in socio-economic development. By doing so, she offers a methodical investigation of the capability approach in IS sector. Another study carried out by Kleine (2010, 2013) introduces the Choice Framework as a method to operationalising the capability approach to the development process. The author concluded that in view of the challenges of practical applicability and controllability of Sen's capability approach faced by development founders, the operationalisability of the capability approach is increased by the choice framework, encouraging and trusting individuals to be empowered agents of their own development. An additional study made by Hatakka and De' (2011) who introduces Sen's idea of development as freedom to be used as a framework for the evaluation of Information and Communication Technology for Development (ICT4D) in order to comprise a clear role for technology in Sen's capability framework. The authors, in this case of distance education from Bangladesh, found that the capability approach was successfully operationalised and validated to surpass the superficial variables associated with the implemented technology and to focus on actual outcomes. They also argue that technology should be seen as a means to achieve freedom rather than as an end in itself, which is in line with the current study argument of using e-learning as a means but in terms of developing women's ability to attain their educational goal according to their freedom to do so. A more recently application of capability approach comes from Liyala (2012) who applies Sen's notion of capability approach to evaluate the influence of mobile banking (commonly known as MPESA) on the needs of the



rural population of Bukhalalire sub-location in Western Kenya. These examples clearly show the usefulness of the capability approach as an evaluative framework of the technology and its relationship to helping people. In spite of all these efforts, the applications of the capability approach in Information Systems research, however, are generally in an early phase, which requires more examination and development.

### **2.5.2. Application of the Study**

The current study does not aim to apply capability approach from its broad application but rather to limit it to specific resources, namely to the use and access to e-learning among Saudi women by showing their ability to convert e-learning into achieving their higher educational goals through the perspective of the capability approach while drawing from the grounded theory, and examining the effective opportunities that e-learning could offer women to attain what they consider to be a valuable educational outcome. Thereby, this study would be varying from the above applications of capability approach in different aspects which are as follows:

- Applying Sen's idea of conversion factors with Nussbaum's idea of empowering women.
- Concentrating on one domain which is education and technology in general but e-learning in particular.
- Looking at one specific capability, which is the ability of Saudi women to access and use e-learning freely.
- Focusing on one functioning, that is the completion of higher education for Saudi women.

- Looking at the conversion factors and their dimensions that would impact the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement.
- Looking at the living conditions of Saudi women and their role in the women's ability to achieve.
- Using the grounded theory with the capability approach to strengthen the process of selection of the important (relevant) list of dimensions about the ability of Saudi women to access and use e-learning freely. This combination of methods will provide a structure from which to study this specific area of capability for women but with sufficient flexibility to adapt to the situation of the study in Saudi Arabia from the theoretical to the practical level in order to obtain an understanding of the reality of such achievement, its barriers and how to best facilitate it.

In light of the above, this study attempted to build on the focus of the previous studies on the capability approach and technology sector by demonstrating the usefulness of utilising the capability approach as an evaluative framework in the domain of technology in general and e-learning in particular. Specifically, it adopts both of Sen's and Nussbaum's versions of capability approach as a framework for assessing women's freedom to access and use e-learning effectively in order to attain a valuable educational outcome. In this study more attention has been given to technology as an instrument to enhance human capabilities and the ability of human to convert such tool (e-learning) into useful outcomes by concentrating on the conversion factors that

affect women's ability to access and use e-learning freely rather than on e-learning itself as it argues that providing technology (e-learning) to support women's education could potentially enable them to achieve their educational goal but conversion factors might prevent their ability to do so. It also introduced the grounded theory as a supportive method of operationalising the capability approach to develop practical capability approach dimensions.

## **2.6. Dimensions Technique of Selection**

As one of the distinguish features of the capability approach is its emphasis on identifying and prioritising the freedoms people value, the main concern in the selection of dimensions should be focused on things that people value and have reason to value (Sen, 1999; Alkire, 2008). In this regard, the dimensions of the ability of Saudi women to access and use e-learning freely should be determined. In order to achieve that, Robeyns's (2003a, pp. 41-42; 2005, pp. 205-206; 2006, p. 356) criteria namely: *"explicit formulation, methodological justification, different levels of generality, and exhaustion and non-reduction"*, as well as Alkire's (2008) technique namely ongoing deliberative participatory are applied with Grounded Theory support to select the valuable dimensions of women's ability in using and accessing e-learning in this study. By doing so, the capability approach and the grounded theory will feed and influence each other. This method of integration is new in the process of selecting dimensions, which will be discussed in more detail in sections 7.1 and 7.2.

## **2.7. Summary**

Being able to choose and do whatever you think is valuable to you is the idea of the capability approach. Therefore, the ability of Saudi women to use and access e-learning freely is more important than offering them computer and internet in their home in order to help them achieve their educational goal. However, their ability to do so is affected by conversion factors which are personal, social and environmental factors. Based on the capability approach, the real freedom is the idea of dealing with people as agents not as patients which this study endorse this idea of. There are two approaches of capability, each one has its own features but they overlap in some points, these are Sen's capability and Nussbaum's capabilities. The main differences between them are that Nussbaum is motivated to establishing the foundations of human dignity in contrast with Sen who emphasises the enhancement of individual freedom.

As the capability approach is not applied widely in social studies of the Information and Communication Technology (ICT) field, this study will attempt to fill the shortage by adopting capability approach to evaluate the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement. As Sen leaves the process of selection of the valuable dimensions (capabilities) for individual vague for the researchers, this study has applied the Robeyns' criteria and Alkire's ongoing deliberative participatory technique as methods of selection for the valuable dimensions of women's ability to access and use e-learning freely alongside with the support of the grounded theory. The next chapter will review the literature that relates to the status of women in Saudi society from different aspects.

### **3. Women and Society in Saudi Arabia**

The purpose of this chapter is to review the literature on women and society in Saudi Arabia, considering several different aspects including: the status of women in Saudi society and the Holy Book of the Muslims (Qur'an) as well as their comparison in both.

#### **3.1. Saudi Society**

Saudi society is built around tribal and Islamic affiliations (Metz, 1992) and it is difficult to differentiate between Islamic laws and Arabic traditional norms (Al Lily, 2011). Major cities are generally less conservative than the remote areas and smaller towns and cities, though Riyadh, the capital and centre of Wahabism in the middle of the country, is seen to be more conservative than the second city, the coastal port of Jeddah in the West, which is more cosmopolitan (Cordesman, 2003). Saudi citizens embrace the cultural and religious attributes of society in totality while the norms for public behaviour are highly regarded as conservative.

#### **3.2. The Status of Women in Saudi Society**

The position of women in Saudi society, especially in the public domain, is complicated (Fierke and Jørgensen, 2001). The concept of male guardianship has been, and still is, one of the strong norms for Islamic women in Saudi Arabia (Hamdan, 2005). This phenomenon has impacted on women taking up higher education and in particular women seeking education from international countries. Every woman is entitled to a male guardian, regardless of her age, by law. Politically, women have not been allowed to participate in any form of elections (ibid). Recently, the king is pledging to allow

women candidates to run for seats in the consultative assembly in the local elections and they will be allowed to vote (BBC, 2011).

The power imbalance between men and women in Saudi Arabia is not specifically stated in the laws of the country, but rather, is embedded in the social and government structures and practices (Doumato, 2010). Women lack access to the justice system and thus rely on their male counterparts to represent them. Such imbalance also affects their education since it is difficult for women to voice any concerns that they may have about the existing education system. This practice implies that women's ability to be and do whatever they want is limited, which must be improved. Another important area that needs improvement is the overall freedom of women in Saudi Arabia since current limitations mean that they are unable to travel beyond their home, hence their access to education opportunities is limited. This is another requirement of women's capability which needs to be focused on and should not be ignored.

In addition, the extent to which women participate in decisions relating to their own marriage is restricted by the family and male counterparts (ibid). This indicates that Saudi women suffer from the exclusion from participating and playing vital roles in their society and the deprivation from getting their rights. In this regard, reinforcing women's power is required to enhance their ability to be a valuable person in their society by doing things that are important to them and live as they want. As these practices develop from the nature of Saudi society with participation from government policies, according to Sen (2000, p. 15), they fall under *active exclusion* "*done by the*

*government*” and *passive* exclusion “*result from a set of circumstances*”, the conservative and tribal society culture in this study. The women in Saudi Arabia lack equal access to employment and economic opportunities, on top of what the scope for women to manage their own wealth is limited by social and religious factors (Doumato, 2010). As a result, women are not in a position to take up education opportunities. Even methods such as e-learning, which as a new form of delivery could open up opportunities for women to engage with education more freely, require substantial investment from the learner.

The Sharia laws, as well as the tribal culture, define the gender-based roles within Saudi society (Leslie, 2011). These cultural aspects, particularly the tribal cultural practices, have helped shaping the position of women in society and subjugating women to gender segregation in diverse aspects of society. From a broader perspective, approximately 80% of women in Saudi society, as depicted by a government poll in 2006, are opposed to the practices of women driving or working in the same environment as men (ibid). This shows that the majority of women are against the reforms which might release them from their often perceived suppression (Saudi Gazette, 2008). However, there are other groups of women, who live in the main cities e.g. Riyadh, Jeddah and in the Eastern region, who have got a high education degree, probably obtained from abroad, and who are not happy with the current status of women in society. They are highly motivated to enhance their situation so they try from time to time to put pressure on the government to change and improve their status within the community by calling women all over the country to drive cars in spite of the government and society not allowing them to do so. This

shows that some changes are happening within the Saudi women community which the government needs to be ready to face by taking some decisions in favour of women as King Abdullah did when allowing 30 women to take a place in the Shura Council (called Majlis Al-Shura) (BBC, 2013). This exercise of capability should be improved as it would lead women to moving forward towards being treated as humans in their society.

Notably, women make up only 21% of the Saudi workforce (Saudi Gazette, 2008). With the adoption of the current changes to transform male dominion, allow more equitable resource allocation between the two genders and greater gender parity, along with increased uptake of higher education by women, Saudi Arabia is considered to be one of the Islamic countries achieving the highest economic development (Wiseman et al., 2008). However, it is clear that women in Saudi Arabia still have few or no political and/or social rights.

The position of women in Saudi Arabia also differs from that of other Islamic communities demonstrating that the more conservative society has evolved. Taking as an example Indonesia, in comparison, Saudi women have fewer rights and freedom. In Indonesia, there is no gender segregation in relation to education and public work as is the case in Saudi Arabia (Kendall, 2006). Women are allowed to enjoy higher education with their male counterparts. Driving is not an issue for Indonesian women (Faiza, 2005). More so, travelling for higher education or for international employment does not call for the company of a male guardian. Interestingly, the Saudi government and its society see this diversity as a moral decline of the Muslims in the Indonesian



community (ibid). This points to the likelihood of changes in such practices being slow to come to Saudi Arabia, if indeed they happen at all. As a result, such methods as e-learning will provide opportunities which will appeal to both genders and satisfy the expectations of society for the foreseeable future.

### **3.3. The Status of Women in the Holy Book of Muslim (Qur'an)**

The Holy Book of the Islamic religion, the Qur'an, has provided various teachings defining the place of women in Muslim society (Doumato, 2000). At some point, the Qur'an defines males as superior to women by saying that, *"Men have authority over women because God has made the one superior to the other..."* (Holy Qur'an, 4:34) It also shows men a degree above women in many ways by saying that, *"...Of course, men are a degree above them in status..."* (Holy Qur'an, 2:228). The Qur'an give each men a double share of the inheritance over what each woman gets by saying that, *"The share of the male shall be twice that of a female"* (Holy Qur'an, 4:11). It explains the roles of both males and females based on their gender, making that of males to dominate over females (ibid). For instance, the Qur'an has provisions in many chapters regarding the virtues of a modest woman (Doumato, 2002) and has appealed against female infanticide, shunning abortion as inhumane (Doumato, 2000). Additionally, according to the Qur'an, there must be education equity with men and women receiving education in the same way (Doumato, 2002). Moreover, it explains the way women should be treated by their husbands, defining extension of kindness from men to women (Mehran, 2003) by saying that, *"...Wives have the same rights as the husbands have on them in accordance with the generally known principles"* (Holy

Qur'an, 2:228). Specifically, the Holy Book describes the conduct of men explaining the character of an ideal believer in terms of best practices and deeds directed to the wives (ibid). It is the understanding of the Qur'an that has been manipulated to suit the needs of men to suppress women by exercising their dominance (ibid).

Equality has all its facets delineated in the Holy Book of Islam, which views humankind as made of equals in the eyes of Allah, without any distinction (Doumato, 2000). Moreover, it is plain that the equality between women and men is brought about by the mere essence of righteous deeds, which uphold the moral standing of one human being over the other and not gender disparities (ibid) by saying that, "*...the most noble of you in the sight of Allah is the most righteous of you...*" (Holy Qur'an, 49:13). Enormous respect, therefore, has been accorded to the righteous Muslim men and women described in the Qur'an, who are pious, to demarcate right from wrong in the eyes of Allah (Doumato, 2000). The role of women from the Islamic teachings, in the Qur'an, has historically been to serve the religious communities in diverse capacities, as leaders, health care providers and teachers as well as in the military. In interpretation, the Islamic belief explains equality, not to place men and women at the same level of dominance, but to explain their differences in terms of physical and emotional strengths to recognise their roles in their society (ibid). Based on the above discussion, the Holy Book (Qur'an) offers capabilities that benefit women such as their right to make their own decision about which things are suitable for them in Islamic societies, but the structure of these societies gives men the power to control these capabilities and change them to serve their needs.

### **3.4. A Comparison between Women Place in Saudi Society and the Holy Book (Qur'an)**

The concept of inferiority, which is projected onto Muslim women, is only an unconventional behavioural reduction resulting from uncouth interpretation of the Qur'an (Roy, 1992). There are many indications in the Qur'an that orient women towards many spheres of life, disregarding the gender ideology, by elevating the status of Islamic women (Leslie, 2011). The Muslim society in Saudi Arabia, and the world at large, belittles the achievements of Islamic women by exercising norms that ensure male dominion over females in general practices, including in education (Roy, 1992). The reflection of women in the Qur'an does not entail any segregation prohibiting intermingling between women and men, but in Saudi society, women are only allowed to live a private life without mixing in any way with men other than their relatives (Al-Fahad, 2010). The use of different entrances and limitations regarding the sharing of common eating places hinder women from studying subjects related to engineering and law as well as technologically oriented subjects (ibid).

Many practices in Saudi society, such as women not being allowed to work, travel, study and marry without first gaining authorisation from a male guardian are laws that do not have any backing from the Qur'an (Roy, 1992). This indicates that the role that woman guardian play in Saudi society is fundamental and transferred from male to another. For example, when women do not have any male relatives, they do not become responsible for themselves but they become the responsibility of the judge (Hamdan, 2005). This practice of capability should be reduced while other types must

be improved like the independence of women, if it is identified as a threat to individuals in the family who feel thwarted by gender equality, or males with political power who identify gender equality as an endeavour that could render them vulnerable to power inferiority (Al-Fahad, 2010). The teachings of the Holy Book and their portrayal of women regard both genders equally in many aspects of general life, however, women are not allowed to drive or travel alone in Saudi society even if it is not prohibited by the Qur'an (Roy, 1992).

### **3.5. Summary**

Saudi society is a unique mix between religion and culture, which poses difficulties for the government over education for women. The position of women in this society is complicated and they have to face a lot of barriers to get an education as they live under male authority all the time. This situation is against their status in the Holy Book (Qur'an) which offers capabilities that benefit women, such as their right to make their own decisions about which things are suitable for them in Islamic societies, but the structure of these societies gives men the power to control these capabilities and change them to serve their needs. Therefore, the status of women in such societies needs to be enhanced by treating them with more respect and making sure their rights as human are respected as such ways would improve their chance of completing their higher education. In the next chapter, the literature on women's higher education in Saudi Arabia will be reviewed.

#### **4. Women's Higher Education in Saudi Arabia**

The purpose of this chapter is to review the literature on women's higher education in Saudi Arabia considering several different aspects including history, pedagogy, teaching methods, barriers and movement.

##### **4.1. History**

The Ministry of Higher Education was established in 1975 to provide higher education to all students based on Islamic laws and to supervise its process (MoHE, 2009). The goal of education for women was for them to be successful housewives and good mothers, with knowledge suitable to their nature such as teaching, nursing or giving medical treatment. Gender segregation was essential at all levels except for kindergarten, day care and medical school (Metz, 1992; Al-Khalifa, 2010c), and this system continued until the opening of the King Abdullah University of Science and Technology (KAUST) in 2009, which is coeducational (KAUST, 2012).

Women's Higher Education in Saudi Arabia was first established in 1962 in Riyadh through a special program called ENTSAAB with education off-campus except for exams. From 1967, the King Abdulaziz University (KAU), in Jeddah, began to allow women to attend campus and the Girls Education College was started in Makkah. Since then, further institutions have been opened under the MoE (Alaugab, 2007; Al-Khalifa, 2010c; KAU, 2012). Numbers have gradually risen as has investment in women's education (Krieger, 2007; MoHE, 2009) so there are now twenty-four public universities, most of which accept females, with the exception of the University of Petroleum and Minerals in Dhahran and the Islamic University in Al-Madinah

(Alebaikan, 2010; MoHE, 2013b), including the Princess Nora Bint Abdul Rahman University with 40,000 female students and more are planned (see table 4-1) (AlMunajjed, 2009; MoHE, 2009; 2013b; Al-Khalifa, 2010c).

Region	University	Year	City	Type	Total
Riyadh	King Saud	1957	Riyadh	Public	13
	Al-Imam Mohammad ibn Saud Islamic	1974	Riyadh	Public	
	Arab Open	2002	Riyadh	Private	
	Prince Sultan	2000	Riyadh	Private	
	Dar Al Uloom	2005	Riyadh	Public	
	Alfaisal	2007	Riyadh	Private	
	King Saud bin Abdulaziz University for Health Sciences	2005	Riyadh	Public	
	Al Yamamah	2004	Riyadh	Private	
	Princess Nora Bint AbdulRahman	2007	Riyadh	Public (women only)	
	Saudi Electronic	2011	Riyadh	Public	
	Shaqra University	2010	Shaqra	Public	
	Salman bin Abdulaziz	2010	Al Kharj	Public	
	Al Majma'ah	2010	Al Majma'ah	Public	
Makkah	King Abdulaziz	1967	Jeddah	Public	5
	Effat University	1999	Jeddah	Private (women only)	
	Umm Al-Qura	1949	Makkah	Public	
	Taif University	2003	Al Taif	Public	
	King Abdullah University of Science and Technology	2009	Thuwal	Private	
Eastern	University of Dammam	2010	Dammam	Public	4
	King Faisal	1975	Al Ahsa	Public	
	King Fahd University for Petroleum and Minerals	1963	Al Dahrhan	Public	
	Prince Mohammad	2006	Al Khobar	Private	
Almedina	Islamic University	1961	Almadinah	Public	2
	Taibah University	2003	Al Madinah	Public	
Asir	King Khalid	1999	Abha	Public	1
AlQassim	Qassim University	2004	Buraydah	Public	1
AlJouf	AlJouf University	2005	Al Jouf	Public	1
Jazan	Jazan University	2006	Jazan	Public	1
Ha'il	University of Hail	2005	Ha'il	Public	1
Al Baha	Al Baha University	2006	Al Baha	Public	1
Tabuk	Tabuk University	2006	Tabuk	Public	1
Najran	Najran University	2006	Najran	Public	1
Northern Border	Northern Border University	2007	Arar	Public	1
					33

Table 4-1: Saudi universities (Source: <http://www.mohe.gov.sa>)

The Saudi government has invested heavily in its higher education programme and the Princess Nora Bint Abdul Rahman University offers courses in science that were previously restricted to male students, so the situation regarding women's higher education opportunities has continued to improve (MoHE, 2009). Women can now study abroad and the numbers have increased from roughly 3,879 in 2004/2005 to approximately 35,700 in 2011/ 2012, (see figure 4-1) (MoHE, 2013a).

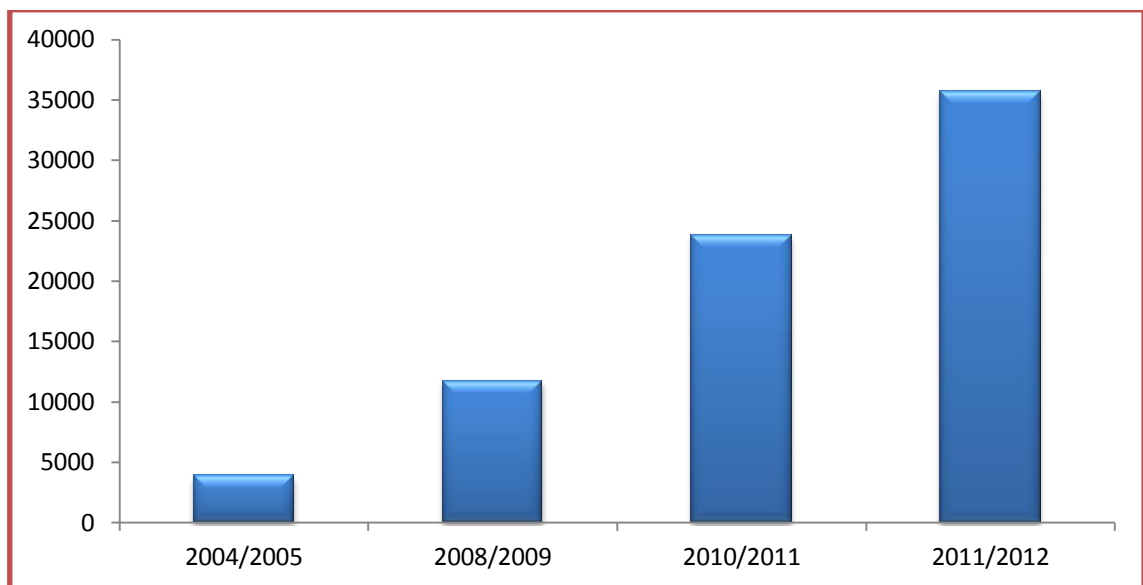


Figure 4-1: Saudi females studying abroad for a bachelor degree and above for the year 2004/2005, 2008/2009, 2010/2011 and 2011/2012 (Source: <http://www.mohe.gov.sa>)

However despite all the efforts being made, women who live in the Northern and Southern regions still continue to have less opportunities to access higher education than those who live in the other regions because of the distribution of universities and their branches between regions and provinces, and the barriers of traditional culture (AlMunajjed, 2009; MoHE, 2009). Because of the increasing number of secondary school graduates year-on-year, there is also a rise in the demand for higher education

places (see figure 4-2) (Alebaikan, 2010). Supporting this view, in 2008 for example, only 73 percent of female secondary school graduates were offered higher education places by Saudi universities, but the Najran and Northern Border regions showed the lowest rate of offering university seats to female, compared to other regions, with only 1.4 percent offered a place at the universities in these regions. This means that their opportunities to access higher education are still less than other females in major regions (Riyadh, Jeddah and Dammam) (MoHE, 2013a). However, despite these barriers, the demand for higher education by women has increased as more females graduate from secondary school, 99,000 in 2000/2001 to 155,000 in 2009/2010, (see figure 4-2) (MoE, 2010; MoHE, 2013a).

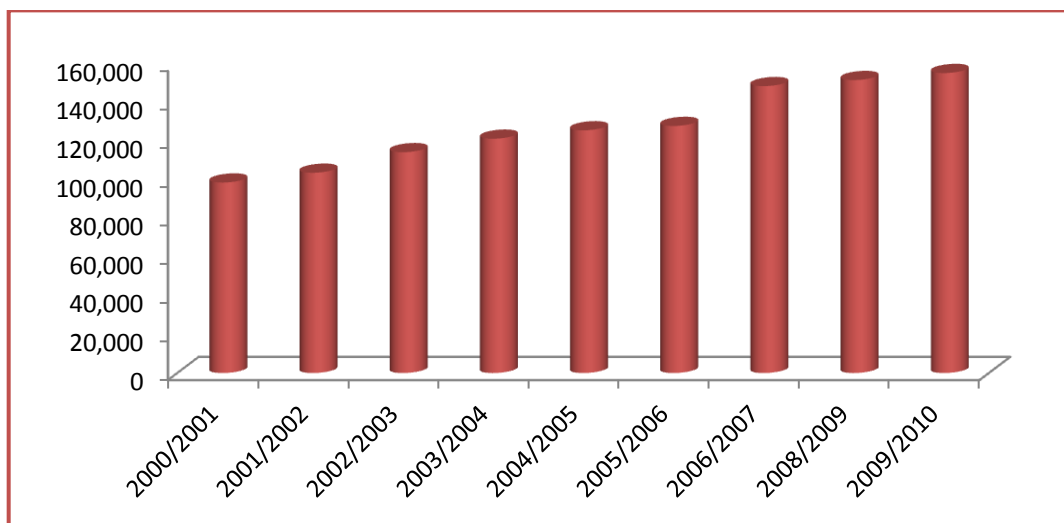


Figure 4-2: Female graduating secondary school from 2000/2001 to 2009/2010 in Saudi Arabia (Source: <http://www.moe.gov.sa>)

The number of female lecturers in Saudi universities has correspondingly risen from just 4,700 in 2003/2004 to approximately 19,600 by 2008/2009, whereas male instructors have increased from about 7,200 to around 48,800 in the same period



(MoHE, 2013a). However, since there are more female students than males there is still a lack of female instructors in higher education (see figure 4-3) (ibid).

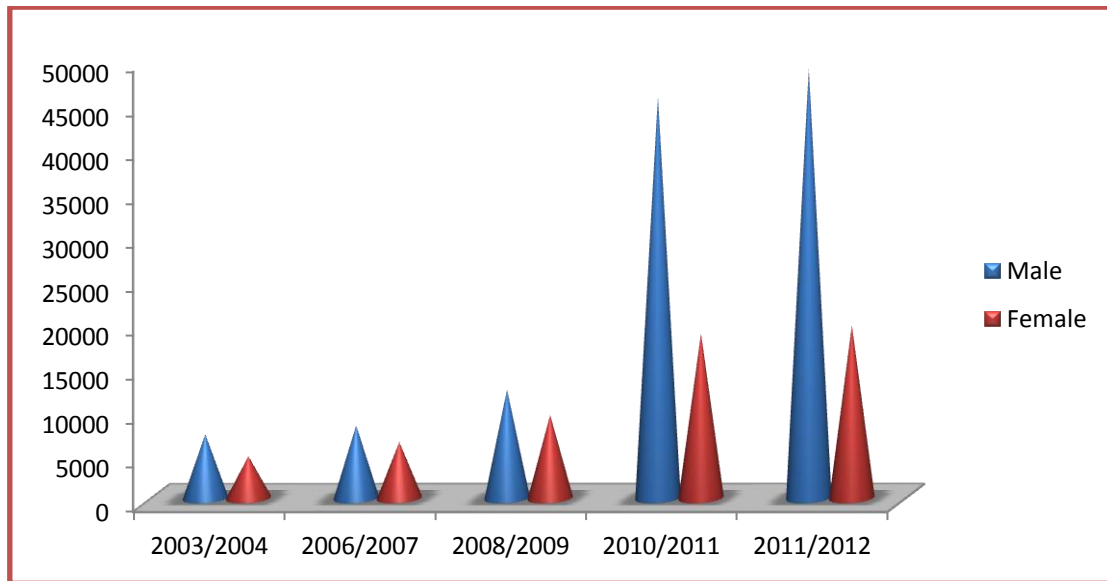


Figure 4-3: Saudi male and female academic staff at university for the years 2003/2004, 2006/2007, 2008/2009, 2010/2011 and 2011/2012

(Source: <http://www.mohe.gov.sa>)

This shortage of female instructors, along with the growth in number of females graduating from secondary school every year (Alaugab, 2007), causes excess demand. However, it is very difficult for women to attend university since they need a male guardian (Al-Kahtani et al., 2006; World Bank, 2009). Therefore, opportunities for women to access higher education in Saudi Arabia are hampered (AlMunajjed, 2009).

In light of the above, the goal of education for women needs to be changed as the requirements of today's women are completely different from those of their mothers and grandmothers because social changes are more likely to occur as women become more educated, more knowledgeable about their rights and more active than before.

The women who have the chance to study abroad and are still studying are expected to come back with new ideas about the life that they want from their society and government as their number gradually increased (see figure 4-1). Therefore, the government needs to do more than just increase its spending in women education by involving women in any decision that would impact their lives and ensure their ability to benefit from it such as through the use of the e-learning method. However, this depends on the goal the government seeks to achieve with women education; it implicitly appears good but is not in its entirety because of the non-involvement of women in determining the appropriate education for them as decisions are usually made by men who usually look for things that do not affect their power.

#### **4.2. Pedagogy**

Traditional methods of teaching where students play no active role are common (Tatweer, 2008; MoHE, 2009) and much memorising without creative thinking or discussion is the norm (Al-Mengash, 2006). Students are expected to accept what they hear from their teachers or read from their textbooks and their role is to learn the information, which is reflected in the way their personality develops (AlMunajjed, 2009).

Some, such as AlMunajjed, (2009) advocate the adoption of more modern methods, e.g. student-centred, active learning using brainstorming, teamwork and inventive thinking. The government launched the King Abdullah Bin Abdul Aziz Project for Developing Public Education (Tatweer) in 2007, with a budget of SAR 11.8 billion, to modernise the educational system and introduce modern technologies such as the

internet and computer applications (Al Shemary, 2007; Tatweer, 2008; Al-Khalifa, 2010c) starting at secondary level where students will adapt more easily (Tatweer, 2008), but also to develop teachers' skills and enhance and improve school activities (Al Shemary, 2007; Al-Khalifa, 2010c).

Even at university level, students do not carry out research and are expected to rely on lectures for their learning (Al Shubaily, 2008). However, innovation in teaching has begun and active learning strategies are now being used at some universities (Alebaikan, 2010). Women's education also uses passive methods (Doumato, 2000) and it is suggested that lecturers merely reflect their own experience in their methods of delivery (AlMunajjed, 1997), though improvements have been noted in quality and variation of education received by women in Saudi Arabia (World Bank, 2009). Therefore, the Saudi government is working to develop the quality of its education system and considerable change is being seen.

#### **4.3. Teaching Methods**

MoHE seeks to develop methodologies for women's education based on Islamic law and social norms. ENTSAB was used at first and MoHE offered a distance education programme at Girls' Colleges from 2006 which used Very Small Aperture Terminal (VSAT), broadcasting technology to allow remote access to master's degrees (Al-Kethery, 2006; Al-Khalifa, 2010c). Women can also watch lectures given by male instructors on closed-circuit television, (Alaugab, 2007) hence avoiding the problem of attending class and Al-Khalifa (2009) suggests that public universities should allow females to receive lectures from male staff using closed-circuit television with one-way

video and a two-way audio broadcast system. Recently, ENTSAAB has been improved to operate off-campus for the new Enhanced Distance Education where students can interact directly with their instructors via the internet (King Faisal University (KFU), 2012). This is a major development made possible by the advances in telecommunication infrastructure in recent years. This means that students are able to access satellite broadcasts and alongside using the internet (Hamdan, 2005), it makes education more accessible for women. The new ENTSAAB says enrolment has risen from 4% in 2000/2001 to 28% in 2003/2004, however, as the number of places increased the take-up did not keep pace even though access to university became easier (see figure 4-4) (MoHE, 2013a).

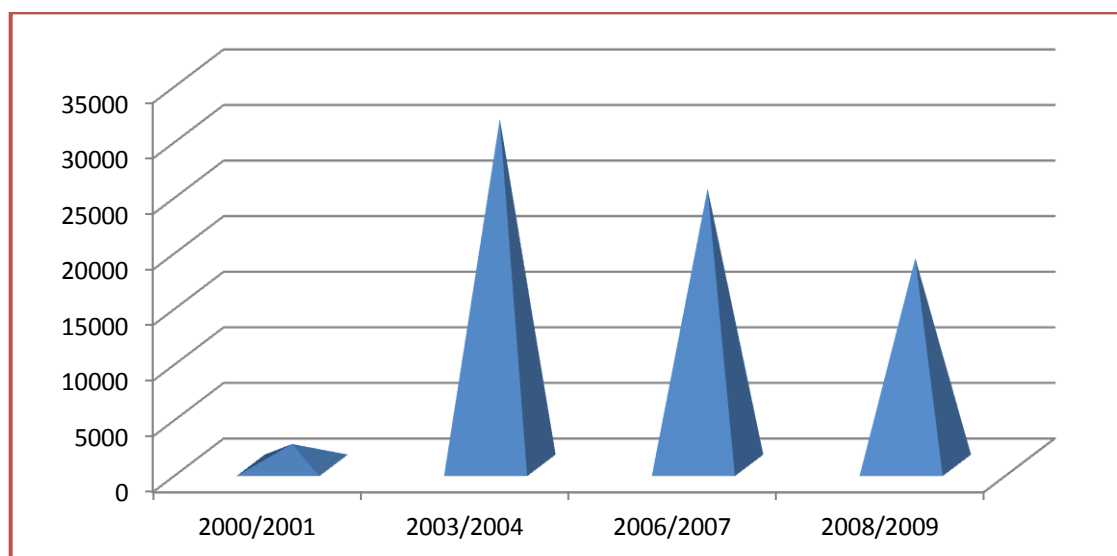


Figure 4-4: Saudi female enrolment for a bachelor degree at universities through the ENTSAAB methods for the years 2000/2001, 2003/2004, 2006/2007 and 2008/2009

(Source: <http://www.mohe.gov.sa>)

#### **4.4. Barriers**

Even though civilisation has brought many changes to the social and religious practices within Muslim communities, transition towards accepting education acquisition by Islamic women, especially higher education, has been faced with many obstacles, which infers rejection in many Islamic countries. Saudi Arabia is not an exception considering that the Saudi higher education system changed to improve education equity, with consequent gender parity, only in the last decade (Roy, 1992). Religious beliefs coupled with social practices with regard to gender-based roles have resulted in the perception that higher education is more relevant to males than females, hence the institutionalisation of very few schools for women. Because of this, fewer education opportunities are presented to women.

Moreover, in the past, gender segregation has been employed to restrict Saudi women to particular study fields. In the recent past, the Saudi Government has emphasised the need for equity and acquisition of higher education by women in order to enhance their education status in society. In addition, in Islam, it is believed that education for both genders should be available (AlMunajjed, 1997; Baki, 2004) and the 1970 Saudi education policy stated that women and men have an equal right to education (Metz, 1992). However, barriers pose difficulties, for example, they have to call in advance for their required education materials from King Fahad Public Library in Riyadh and send a man to pick them up because they are not allowed to use the library in person (Human Rights Watch Report, 2008), and must have a close male relative (mahram) as guardian to be eligible for a government scholarship to study abroad (MoHE, 2010). This

indicates that improving laws related to women is required to support their educational capabilities.

Social and religious beliefs obstruct female education to a greater or lesser degree depending on their location in the country (AlMunajjed, 2009). The social norms dictate how Saudi women behave, for example, Dorter's 1997 study (cited in Al-Harthi, 2005, p. 9) shows that an explanation given by a female research participant on a distance course demonstrates that the mere presence of men inhibits the learning possibility of women (Al-Harthi, 2005) as one woman cites how she felt obliged to leave a distance learning chat room when a male friend of her family entered. Samovar et al. (2009) agree that there is a strong relationship between culture and learning, which is reflected in the way people prefer to learn and Tubaishat et al. (2006) noticed that communication between genders is affected by cultural, social and religious inputs. This shows the need to reduce the impact of social and religious beliefs towards the ability of women to learn.

A notable Saudi women's rights activist Wajeha Al-Huwaidar, interviewed by Hurra TV in 2007, said that in general women in Saudi Arabia live in prison because they face five types of shackles, namely tribe, family, religious institutions, political organisation and society (The Middle East Media Research Institute, 2007). However, not all Saudi women agree to remove the rule of male guardianship over women such as Saudi women's rights activist Rowdah Al Yousef who has adopted the campaign "*My Guardian Knows what's Best for Me*", which aims to stand against those women who are demanding to be treated as adults by supporting the continuance of women

guardianship (Leslie, 2011). Therefore, policy-makers must be aware of the effect of culture and religion on all aspects of life to be successful in implementing new policies and innovation (Alebaikan, 2010). In effect it is not enough to merely set up education for women, it must be set up to be accessible to women.

It is clear that segregation, mobility, early marriage, family honour and veiling are the main social and religious beliefs of Saudi society that impact on women's higher education (Al Alhareth, 2013). Gender segregation is required in almost all situations, including virtual environments, and this will influence women's education (Baki, 2004; Al-Kahtani et al., 2006). A literal interpretation of the Qur'an shows that any type of communication between unmarried or unrelated males and females is restricted (Baki, 2004), and a man cannot talk directly to a woman not related to him, even via the internet (Al-Kahtani et al., 2006; Mohamed et al., 2008), to avoid sexual attraction (*fitna*) according to Metz (1992). Indeed, a case where a father killed his daughter for being on Facebook with a man has been recorded (McElroy, 2008), though this is due to traditional values rather than religious beliefs (Mirza, 2008). Gender segregation, as a societal need to derail women in their professional life, has been employed to restrict Saudi women to particular study fields.

In addition, since men are responsible for their women (female family members), their permission is required for a woman to leave their home (Deaver, 1980; Al-Kahtani et al., 2006). The practice of male guardian provision to women intending to pursue education abroad is mitigated to allow more women access to international education. Therefore, women's mobility is very restricted (Sabbagh, 1996) by culture, which could

affect their higher education opportunities. This implies that the subordination of women to men needs to be removed in order to enhance women's ability to live their own life. Moreover, according to AlMunajjed (2009), early marriage is one of the major factors that obstruct females' education. Women may drop out of school or higher education in order to marry, especially in rural areas where marriage is still a priority over education. This would unfavourably influence their chances of completing their higher education (ibid). This shows that women could easily miss out on education opportunities by being forcefully married off.

Additionally, family honour in Saudi society is directly related to women's chastity (Metz, 1992; Hamdan, 2005). Soffan (1980, p. 18) explains that in society and in Islam *"the woman is the repository of moral deeds in her family, thus she can destroy the honour of the family. She carries her family honour with her even after marriage and she continues to represent her family through modesty."* Therefore, this can further restrict women's mobility and in turn might limit their higher education (Baki, 2004; World Bank, 2009). Furthermore, the requirement for women to cover their body with an abaya, their hair with a hijab and their face with a veil when they meet a person not related to them, as such might affect their chance of getting married, especially in remote areas (Metz, 1992; Mirza, 2008), has led to the segregation of women.

These beliefs permeate society and cannot be ignored by the government when new policies are set because of the high degree of their influence on the social lives of women. Therefore, the adoption of e-learning could be an important step towards addressing these barriers in a number of ways. First, e-learning will enable teaching



these women practical skills that put them on equal footing with male students. This will help provide such women with the required skills and knowledge in areas such as law, human rights and politics among others. Secondly, the barrier of mobility will be addressed by the adoption of e-learning since these students will have enhanced flexibility in accessing course and single gender lectures from all corners of the country. It is important to note that access to traditional classroom is limited for Saudi women since they are prohibited from driving. In addition, e-learning will ensure that those women who have been forced into early marriages get the opportunity to continue with their education from their homes. This is because e-learning ensures that such women interact with women faced with a similar challenge and thus provides a platform for initiating change in their situation. On the other hand, the adoption of e-learning might be an a step towards entrenching these barriers deeper, but the idea of finding new ways for women who are restricted by these beliefs of society is the main goal and it is better than to leave them without a chance of completing their studies.

#### **4.5. Movement**

In spite of the barriers that stand in front of women's education, the Saudi government, especially in the last decade, has obviously showed its commitment to move forward at all levels in general and in higher education, particularly by increasing the higher education institutions and distributing them in the whole country to ensure that all women can easily access them (MoHE, 2009). This direction was mainly driven by King Abdullah bin Abdulaziz and his vision towards Saudi women's role in society. For example, King Abdullah offers women a valuable opportunity to study abroad as is

the case for men, which is definitely a huge movement for them to be educated in a society that gives men priority over women. Interestingly, King Abdullah has succeeded in this trend and made it run smoothly without any conflict within society (Nouf, 2014; Alzouman, 2014). This implies that the acceptance of the ability to move women's education further within society existed but needed to be supported by the government.

The King Abdullah has recently given his order to employ around 23,000 women who have an Intermediate College Diploma, as they have been waiting to get such reward for obtaining their educational qualification for a long time (Ministry of Civil Service, 2013; Ministry of Education, 2014). However, this achievement did not happen only because the King wanted it, it was a result of the claims and continuing pressure carried out by women on the government, using media to do so (Alansari, 2013). They, for example, have introduced their unemployment issue via famous programme displays on MBC TV called Althamena (ibid). This shows that the situation of women in Saudi Arabia somewhat change as they are now able to make slight requests for their rights by themselves, even if it might not make a huge difference. It could at least cause a major concern for the government. It also gives them hope that their educational qualification cannot be lost and that the benefit of such development can be derived. However, the Saudi government still struggles to offer educated women a job, as it does to their counterparts (Sullivan, 2012).

Despite all of that, the Saudi women's education movement is still running behind some other Gulf countries such as in the United Arab Emirate, Kuwait and Qatar, who

have reduced the gap between gender, as it leads to enhance their women's education (World Economic Forum, 2014). As such, they have the highest ratio of female enrollment at higher education level (Kelly, 2009) and achieve their educational goals compared to Saudi Arabia (World Economic Forum, 2014). However, the Saudi government is on the right path in the improvement of its women's education and should continue doing so as education would probably enhance their status in society in many ways. Supporting this view, the Education for All Global Monitoring Report states that education not only would increase women's knowledge of their rights, but would also facilitate their chances to get a job and reinforce their situation in society as well as keep them healthy (UNESCO, 2014).

#### **4.6. Summary**

It must be said that women's higher education opportunities have increased with the improvement of female higher education provision but the opportunities are still not able to provide the level of education needed to meet the demand of women or to provide equality of access across the country. The provision and opportunities are far better for those in the larger cities while for women in more remote parts of the country, access is almost impossible. Even for those in the urban areas near larger universities, access to higher education is limited by many factors including culture, society and religion. In the next chapter, the literature on e-learning in Saudi higher education will be reviewed.

## 5. E-Learning in Saudi Higher Education

The purpose of this chapter is to review the literature on e-learning in Saudi higher education including: information regarding e-learning in Saudi Arabia through different sections which are its history, online programmes currently in play in higher education, the internet, e-learning and gender, the challenges of e-learning and its limitation.

### 5.1. Introduction

According to the national report by the Ministry of Higher Education in Saudi Arabia (2009), the number of secondary school graduates has increased in the last 10 years and as a result, the demand for higher education grew by more than 400% during 2008/2009. The number of women graduating from secondary school increased from 98,600 in 2000/2001 to 155,200 in 2008/2009 - an increase of nearly 58% - but there has been a rise in female enrolment at universities for bachelor degrees going from 50,500 to 110,900 students - an increase of 120% - in the same period, which means their demand for higher education has climbed (see figure 5-1) (MoHE, 2013a).

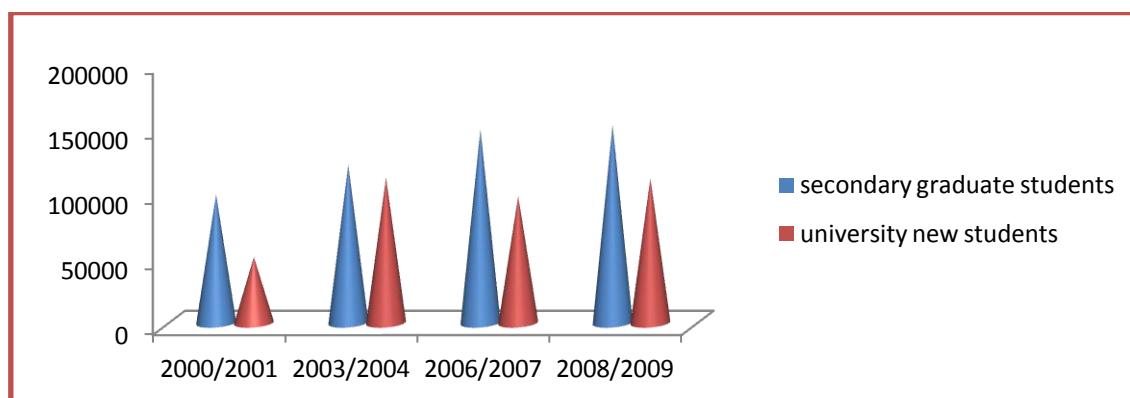


Figure 5-1: Saudi females by secondary graduates and new students' enrolment for a bachelor degree at universities for the years 2000/2001, 2003/2004, 2006/2007 and

2008/2009 (Source: MoHE, 2013a; MoE, 2010)

This rise in student numbers has caused pressure on resources in the higher education system and while new universities have been built, resources remain stretched. Therefore the use of ICT has been encouraged by the Ministry of Higher Education with e-learning to meet that demand (Alebaikan, 2010).

Saudi higher education has seen massive investment in recent years (Krieger, 2007) and the Saudi Gazette (2008) recorded the findings of the Madar Research that the industry of e-learning in Saudi Arabia amounted to US\$125 billion and is set to increase by 33 percent over the next five years. Bates (2009) also recognises the commitment of the Saudi government to invest money for an educational improvement which indicates that the next few years will be an interesting time for e-learning in Saudi Arabia.

While e-learning in Saudi Arabia has received massive support from the government, lecturers and students in higher learning institutions, there are also those who have a negative view of the technology. According to Baker et al. (2010), Saudi Arabia is strongly influenced by the existing social and cultural structures as well as by the associated norms, expectations and values of the population. These authors note that the adoption of technology brings about change especially in the management of organisations which often results in cultural conflicts between the Western and Arab contexts. They add that Saudi Arabia is particularly conservative and heavily influenced by Arabic culture and Islamic teachings, some of which are negatively affected by the adoption of technology. This could be extended to the adoption of e-learning.

## **5.2. History**

According to Clark (2000), the earliest e-learning in education started as early as the 1950s when it was referred to as distance learning, whereas Woodill (2007) argues that e-learning essentially involves computers and so started with mainframe computing in the 1970s, but it did not take off until the start of CD-ROMs and the World Wide Web (WWW) in the 1990s. Beldagli and Adiguzel (2010) agree with this and stated that since the mid-1990s the term of e-learning has been extensively used in education.

With regard to e-learning in Saudi Arabia and as mentioned previously, the Saudi Girls' College used an early type of distance learning in the 1990s, using closed-circuit television (CCTV), with one way video and two way audio (Al Muhaisin and Shawat, 2008), that was to solve the problem of insufficient female teachers. They also established a centre of e-learning in 2003, but this method was acceptable only because there was no alternative method which meant that females were unhappy about using it for their learning (Sheehy, 2011).

The Saudi government produced the National Communications and Information Technology plan (NCITP) in 2007, setting out to ensure the best possible employment of ICT at all levels, in education and training, and the use of e-learning (Ministry of Communications and Information Technology (MCIT), 2007). The National Plan for Information Technology was established by MoHE to encourage and support e-learning and distance learning in higher education (Alebaikan, 2010). In 2006, MoHE set up the National Centre for E-learning and Distance Learning (NCeL) with the

assistance of the Open University of Malaysia (OUM) and Multimedia Technology Enhancement Operations (MTEO) (Almegren et al., 2007) to support the development of e-learning in Saudi higher education. It also established a Learning Management System (LMS) called 'JUSUR' in 2007 to support university course materials (Al-Khalifa, 2010a; Mirza, 2007; Alebaikan and Troudi, 2010). Their National Repository for Learning Objects 'MAKNAZ' was devised to store, manage and share learning objects among universities. The Saudi Centre for support and counselling (SANEED) was set up by NCeL to support, guide and improve the abilities for all e-learning users in Saudi universities (NCeL, 2013).

Some Saudi universities have established centres for e-learning and distance learning including the King Fahd University for Petroleum and Minerals (KFUPM) in 2003, King Abdulaziz University (KAU) in 2005, King Khalid University (KKU) in 2006, King Saud University (KSU) in 2007, Al-Imam Muhammad ibn Saud Islamic University (Imam U) in 2008, King Faisal University (KFU) in 2008 and Jazan university (JU) in 2009 (Mirza, 2007; Al-Kalifa, 2009; Al-Kalifa, 2010c; KFUPM, KAU, KKU, Imam U, KFU, 2012). Thus good technical facilities are seen, but quality of delivery needs improvement (Almohaisen, 2007) and quality of provision is variable (Bates, 2009). King Abdullah has recently given approval for the Saudi Electronic University (SEU), based in Riyadh, with programmes in Business as well as Computing and Health, which will be an alternative to the ENTSAAB currently offered (MoHE, 2011; SEU, 2012).

Therefore, initiatives to introduce e-learning to the Kingdom of Saudi Arabia have led to a rapid increase in e-learning. However, Saudi Arabia is still in the early stage of its

e-learning development and faces many challenges (Sait et al., 2003; Al-Shehri, 2010), which might affect the adoption and successful application of e-learning, of which human capacity is the most important (Al-Khalifa, 2010c).

### **5.3. Definition**

Various nomenclatures exist to describe a method of learning in which the learner and teacher do not have contact (Elci, 2005) and different terminologies are used, depending on the nature of the teaching and learning (Tsai and Machado, 2002). The term of e-learning has been used as an umbrella term since about 2002 for methods which depend on ICT, including web-based learning and instruction, networked learning, online learning and computer-assisted learning (Littlejohn and Pegler, 2007), and for electronic delivery via a network (Zhang et al., 2004).

It can include everything from a course fully online to a course management system (Daly, 2006), distance learning over the internet (Benson, 2002; Mirza, 2007) and is the most recent evolution of distance learning (Mirza, 2007). Sun et al. (2008) define it as delivering education and training by telecommunication technology, while Sambrook (2003) and Olaniyi (2006) define it as occurring through computers and networks. E-learning is an electronic aided program that allows individuals to acquire educational knowledge and skills without necessarily being physically present in a classroom (Olaniyi, 2006). It is mostly known as the distant learning programs, which allow individuals to learn and acquire knowledge and skills from a different location through online/internet-aided programs (Sheehy, 2011). The range of definitions relates to the



variety of techniques and the rapid changes taking place in IT so what is available is constantly changing (Littlejohn and Pegler, 2007).

The term of e-learning is used in various ways and is often interchangeable with distance learning in Saudi higher education institutions (MoHE, 2009; KFUPM, KAU, KKU, 2012). This implies that they are actually using blended learning, but this term is a new one in the country and is not yet generally used (Alebaikan, 2010). Therefore, to avoid confusion between distance learning, e-learning and blended learning, in this study the definition of e-learning that will be adopted will be that of Zhang et al. (2004, p. 76), which is *“learning based on technology used to deliver learning electronically via a computer network for distant learners”*. For Saudi Arabia this is useful because it recognises that the learner is remote from the teacher, so that can include women attending lectures delivered by males where they are removed and yet participating, or is away from the university in their own home or a learning centre.

#### **5.4. Online Programmes**

Online programmes are not new in the Kingdom of Saudi Arabia. The Girls' College, which later became Princess Nora Bint Abdul Rahman University (PNU), was offering its broadcast distance learning programme to teach 300 masters' students in thirty-six Girls Colleges distributed all over the country (Al-Kethery, 2006). Currently, some universities use online programmes for all students, including King Abdulaziz University (KAU) in 2007, which uses blended learning - a virtual classroom, the internet and an e-learning management system in the faculties of Arts and Humanities as well as Economics and Administration (KAU, 2012). Al-Immam Muhammed ibn Saud

University (Imam U) offers distance education in Arabic Language and Business Administration, transmitting lectures via the internet on a daily basis (Imam U, 2012).

King Faisal University's (KFU) Enhancement Distance Education programmes via the internet, in several subjects, rely on interactive virtual learning environments (KFU, 2012). In 2007, King Saud University (KSU) offers e-learning courses in the college of Applied Studies and Community Services (CASCs) but these are not completely online (Alebaikan and Troudi, 2010). The Arab Open University (AOU) in collaboration with the United Kingdom Open University (UKOU) started offering courses in 2002 in subjects such as Information Technology and Computing, English Language, Education, and Business. Students are taught by methods including interactive multimedia, face-to-face lectures, via DVDs and via the Moodle-based learning management system (AOU, 2012).

Knowledge International University (KIU), the first virtual university in Saudi Arabia, opened in 2007 offering bachelor degrees in Sharee'ah and Qur'anic studies as well as Islamic studies for non-Arabic speakers. The lectures are mixed by using PDF study materials and recorded audio and video offered via the internet (KIU, 2012). More recently, in 2011, the Saudi Electronic University (SEU) launched to become the second virtual university in the kingdom, in the capital city Riyadh, with programmes in Business as well as Computing and Health (SEU, 2012). Therefore there are many programmes in Saudi higher education offering online programmes and demand is growing. However, there are still limitations to these programmes, especially for women, which have to be overcome.

## 5.5. The Internet

The internet became available in the Kingdom of Saudi Arabia in 1997 and was available publicly in 1999 (Alaugab, 2007; Communication and Information Technology Commission, 2009; Al-Khalifa, 2010c; Alebaikan, 2010). The internet officially became part of the higher education policy when the National Centre for E-learning and Distance Learning was established by the Ministry of Higher Education in 2006 (Al Lily, 2011). However, access is monitored by the King Abdul Aziz City for Science and Technology (KACST) and all information is filtered before being passed to the users to ensure information is not against Islamic beliefs or the culture of society (Alaugab, 2007).

Internet usage has increased from only 1.4 million users in 2002 to an estimated 15.8 million users in 2012 while spreading went from 6% in 2002 to 54.1% by the end of 2012 (see figure 5-2) (Communication and Information Technology Commission, 2013).

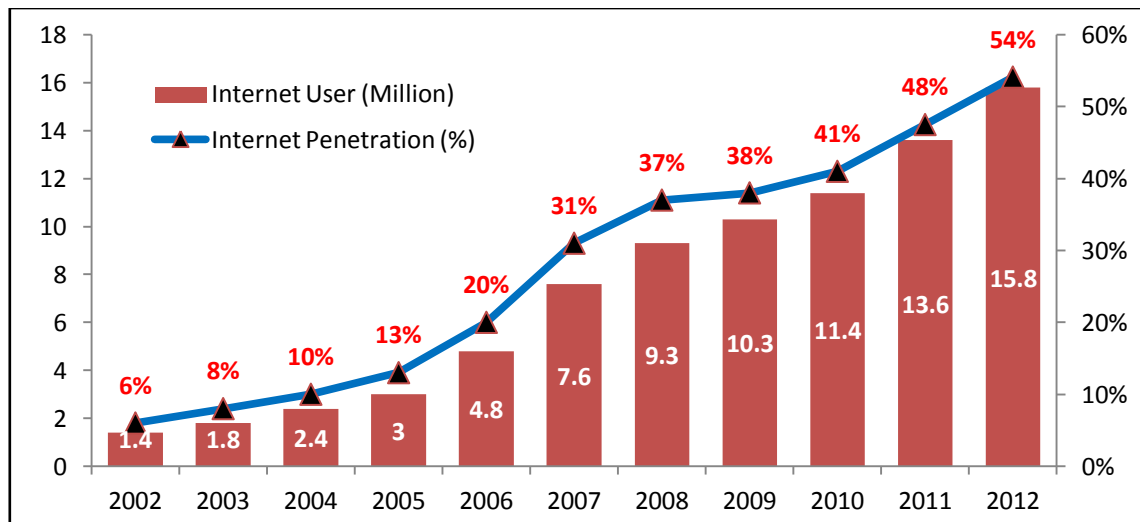


Figure 5-2: Internet Users in Saudi Arabia from 2002 to 2012

(Source: <http://www.citc.gov.sa>)

Despite of the increase of internet usage between Saudi residents, according to the study conducted by the Saudi Communication and Information Technology Commission (CITC) (2009) about Computer and Internet Usage in the Kingdom of Saudi Arabia from 2007 to 2009, it indicated that the ability of Saudi residents to use the internet is influenced by their knowledge of how to use it, its affordability and whether the family is allowing connection at home or not. Al-Wehaibi et al. (2008) found, as a result of a large scale research project conducted in Saudi Arabia, that using the internet there can be impacted by culture and religious beliefs, for example they need their guardian's approval. Al-Kahtani et al. (2006) agree with this in their investigation about the perceptions of Saudi female lecturers using the internet. It indeed stated that some learning disciplines look at the internet as a threat to their social norms due to its unethical content, whereas the lecturers who teach science look at it as an effective tool for work enhancement (Al Lily, 2011). However, according to the Asbar Centre for Studies, Research and Communication (2004), the participation of Saudi females in the online world is not far from that of their male colleagues as they represent 45% of the users compared to 55% of men users (Al Lily, 2011).

Therefore, using the internet as a method of teaching women in higher education might bring some positive points. For instance, Al Muhaisin and Shawat (2008) propose that online learning methods can support Saudi women in facing their responsibilities towards their family whilst achieving an education and could help them to face the mobility restrictions. Additionally, internet use would open women's eyes to understanding the rights of women globally and to allow them voice the need for their freedom. More so, the internet could facilitate their fight against the human right

deprivation they are currently facing. These types of capabilities should be improved as they are needed to reinforce women's education and their situation in society.

In their responding to Dreyfus' (2003) critique of the internet and e-learning, Petrik et al. (2014: p. 1) conclude that internet is a valuable instrument to learn with, by saying that internet *"is a valuable tool for learning that can promote the development of intellectual expertise without the accompanying atrophy of personhood that Dreyfus believes is a prominent effect of extensive engagement with the Internet."*, which is the opposite of Dreyfus' view of the internet as he sees it as an inhibiting tool of meaningful learning and describes it as a deceptive learning method. However, unlike utopian views, this pessimistic view of the technology e.g. internet is in line with the dystopian opinion as they believe in its illusion and its lead to moral and intellectual demolition of humans (Surry, 1997; Dima-Laza, 2012; Rambe and Nel, 2014).

However, the use of the internet in higher education environments might indeed have an unfavourable impact on female students' participation. Supporting this view, government statistics (2009) as cited by Al Lily (2011) show that the enrolment rate of students on the traditional distance education programme without the internet (ENTISAB) was of 12 men to 88 women, yet the rate is now 60 men to 40 women on the new version of the programme using the internet. One possible reason for this reversal is that these programmes are managed by male lectures, which might be unacceptable by their family (Mehana, 2009; Al Lily, 2011). In addition, Aldurywish (2010) stated another probable reason which is that online communication between male academics and female students has been prohibited by many female parents.

The growth in internet usage in the Kingdom will continue because of the increasing population, more than half of whom are teenagers, who will continue to be motivated by new technologies (Alebaikan, 2010). However, the use of the internet is still influenced by culture which might lead to some limitation in the ability to use it, especially for women. Supporting this view, Zahran and Zahran (2008) and Alebaikan (2010), stated that in Arab cultures some parents did not allow females to use the internet in their home because they see it a tool providing information against the norms of society, especially in rural areas.

### **5.6. E-Learning and Gender**

Gender is an important characteristic of online learning and should not be ignored as it determines the perception towards the online learning activities (Coldwell et al., 2008; Adamus et al., 2009). Thereby, a number of studies e.g. Albert and Johnson (2011), Liaw and Huang (2011) and Sevinç and Turgut (2014) has been focused on this issue and stated that male students had a more positive perception of e-learning than their female counterparts. In line with this, Yau and Cheng (2012) indicated that female students are less confident when using e-learning compared to their male counterparts, even if they are motivated due to its time flexibility (Coldwell et al., 2008; Essam and Al-Ammary, 2013). Women still however feel that using technology (e-learning) to learn is mainly a masculine activity (Hwang et al., 2009).

Women who have attended e-learning workshops for staff in three Saudi universities are highly motivated and keen to participate (Bates, 2009); more women attended the Second International Conference on E-Learning and Distance Learning held in Riyadh in

2011 than men (Khan, 2011). This indicates that women faculty members will probably be the drive for the future of e-learning and its successful implementation, in spite of the difficulties which they might face (ibid). However, some students, especially females, had a negative attitude towards e-learning as they thought it could increase their isolation from the real world because of its interaction process (Rovai and Barnum, 2003). This is in line with Tamimi (2013), who stated that using e-learning would have a negative impact on women as it would encourage the men responsible for them to reinforce their isolation. Supporting this view, Hwang (2010) stated that the e-learning method can be seen as restrictive to females in many ways. Hence, Saudi women would certainly not be happy using e-learning for their learning as they clearly stated that they only accepted this method of learning because there was no alternative way to use (Sheehy, 2011).

Despite this, technology infrastructures and facilities to support and promote e-learning in Saudi higher education show that e-learning for women is already established (Almegren et al., 2007; Al-Khalifa, 2010a). However, there are options in e-learning to choose from (Elci, 2005) and whichever system is adopted needs to take into consideration the local society and culture (Milani, 2008). Supporting this view, Downet et al. (2009) stated that the culture and traditions of society should be considered to ensure the success of designing new e-learning programmes. In addition, women's ability to access and use such technology freely should be considered, as well as the dimensions that affect their capability to do so. If these requirements are not taken into account the innovations will not have any meaningful impact in ensuring that women's access to higher education is improved (Al-Hunaiyyan et al., 2008).

In light of the above and looking away from the legislature's views that show that the use of e-learning by women is the proper way for them to complete their education, e-learning can be seen as a possible solution to support women to attain their educational aims (Azaiza, 2012). Even if e-learning would possibly reinforce their isolation and oppression, it should not be considered as the only way for them to learn and a replacement of the traditional method (Singh et al., 2005). However, According to Coeckelbergh (2012), the anticipations and beliefs of people will be changed by the advance of technology as their engagement with such thing would gradually be increased. As such, this study argues that women should therefore adapt to reality and adjust each source they have and use them to achieve their goals, so it is better for them to take the opportunity offered by e-learning to achieve their educational goals rather than staying at home without finishing their higher education, regardless of their dissatisfaction with the way they use to do so.

### **5.7. Challenges of E-Learning**

The implementation of e-learning in Saudi Arabia faces various barriers, which mainly arise from the educational society of Saudi Arabia (Aldraiby et al., 2010). Though these obstacles apply to both genders, women are the most vulnerable members of this society. The issues can be divided into four main categories: technical issues, financial issues, the society, and administrative issues (ibid). Another challenge facing the effective exercise of e-learning as an education tool is that the computing facilities are essential in making the distance teaching-learning process easy and effective (Sheehy, 2011). Some of these facilities are such as the internet and computers (MacDonald; Gabriel & Cousins, 2000). Apart from the existing obstacles, e-learning in Saudi Arabia



is still perceived negatively by users in terms of course content, delivery of the content, confidence in the systems and quality of grading and testing systems.

In a research conducted by Aldraiby et al. (2010), the technical issues are a major challenge to the implementation of e-learning. The results of this study demonstrate that there is poor information and telecommunications infrastructure as well as general weakness of the networks. This can be attributed to a factor pointed out by Sait et al. (2003) which relates to the fact that public access to the internet in Saudi Arabia was allowed in 1999. According to these authors, this was followed by a slow start to the adoption of internet and hence the reason for the poor infrastructure of IT in Saudi Arabia. This also leads to poor training in the management of such e-learning environments. This issue needs to be developed in order to improve women's ability to access and use e-learning.

A majority of learning institutions are not fitted with the required tools and equipment of facilitate the process of e-learning (Aldraiby et al., 2010). In addition, there is a general lack of a maintenance programme that will ensure that the existing IT equipment is updated to maintain relevance (ibid). In addition, many of the students face high connectivity rates compared to other countries and this is a major barrier to the adoption of IT. The results of the study by Aldraiby et al. (2010), show that many of the students in Saudi Arabia complain about high tuition fees which are a huge burden for average families. This capability requirement should not be ignored and needs to be solved in order to increase women's ability to enjoy the benefit of e-learning technology. It is however important to mention that the government of the kingdom is

currently expanding its education systems through budgetary allocations. For instance, the government allocated more than US\$54.5 billion to education in the 2013 budget (Aljabre, 2012; MoF, 2013). However, the full returns on such investments will only be realised in the future and as a consequence many institutions will continue to lack the necessary facilities. In addition, a large number of students enrolled in high school are women, yet many students are still denied access to institutions of higher learning due to overcrowding (ibid). This leads to a high number of women being locked out of the system, which affects the adoption of e-learning among women. This is due to the lack of adequate facilities to accommodate the increasing number of high school graduates.

E-learning is still perceived negatively by students in Saudi Arabia. In a study conducted in 2008 by Elango et al., the researchers attempted to evaluate the perception of students on various aspects of quality in relation to e-learning. The results of this study showed that 35.7% of those interviewed were not happy with the course contents and the quality of the method used to deliver it. Though this percentage is small compared to that of those who approve the relevance of the courses, it is still a significant figure. This finding has significant implications for the universities offering online learning. The results further showed that more than 33% of those interviewed showed signs of indulging in malpractices such as cheating and plagiarism. In addition, this group believed the online courses were not being delivered effectively. These results indicate that the delivery method needs to be improved so that more students gain full confidence in e-learning.

The reliance on the grading and testing equipment is still a subject of debate, while the results of the above study indicate that a small fraction of the e-learners are not contented with the testing methods used (Elango et al., 2008). In addition, a majority of students do not approve the interactive sessions used in e-learning and found such sessions to be unhelpful. This means that the current interactive tools are not user friendly, hence need improvement. The results further indicate that a majority of students are not satisfied with the variety of courses offered that suit their specific needs. This finding therefore shows that the content of e-learning programmes is limited and does not address the concerns of all the students (ibid). Offering different subjects is one requirement that would reinforce women's capacity to use e-learning in their higher education.

Kamal (2004) points out that evidence exists showing that a higher percentage of students who learn online tend to drop out before completing their courses compared to those who study using the conventional classroom method. A study conducted by Sadiq (2004) in Saudi Arabia also found that most students there were of the view that courses offered online were not equivalent to the regular courses. The reputation of the low chances of getting a good career among students and university staff, as well as the expected outcome of an e-learning certificate in the labour market compared with the traditional one is also another challenge which should not be ignored (Alrashidi, 2014). This has however changed with time as recent studies show that most students now believe that the inclusion of technological tools into education is one mode of achieving development in education (Alebaikan, 2012).

Another major barrier to e-learning in Saudi Arabia relates to cultural beliefs and the nature of the education system. One major feature of this society is the dichotomy that exists between the adoption of modern technology and the preservation of beliefs and religious values. Many authorities believe that there are numerous social skills that are associated with the adoption of the internet, hence the reluctance in adopting the technology. In a research conducted by Mohamed et al. (2008), in Al-Bayan Model School for Girls in Saudi Arabia, results show that the Saudi authorities believed that the adoption of the internet posed a serious threat to society as this would result in the arrival of unwanted materials on home computers. In addition, the results of this study further show that gender segregation is the main problem of the education system in Saudi Arabia. This society does not allow for men and women to interact, and in this case, the women face strict rules regarding such interaction. For instance, according to the management of Al-Bayan, any form of virtual interaction is perceived as a threat to society (Mohamed et al., 2008). Furthermore, women in this society value caring for family more than education and it is generally believed that women play a key role in building the fundamental base of the overall structure of the family (Aljabre, 2012). This results in a lack of qualified teachers to deliver such education using the relevant technology.

Social barriers also present serious challenges to the adoption of e-learning. According to Baker et al. (2010), cultural issues are another reason as to why e-learning in developing countries such as Saudi Arabia is challenging. These authors note that countries that have distinct cultural traditions often find it hard to embrace change. Welzer et al. (2010) also state that adoption of technology is a bit difficult with people

who are rigid as they might not be willing to adopt new technologies. Alebaikan (2012) is in agreement with this and argues that blended learning is to a great extent affected by how ready the public is to embracing and using technology as a tool for learning. These findings are also reflected in the study conducted by Baker et al. (2010) who found that the adoption of technology in Saudi Arabia was greatly influenced by the country's national culture. They found that if the elites of the country took upon themselves to encourage the lower classes to adopt technology then technology acceptance rates would increase. The Saudi government has in fact recognised this and is playing a great role in enhancing technology acceptance as well as diffusion by providing incentives to those who are specialists in IT as a way of motivating Saudi Arabians to venture into technical fields. These authors however add that in spite of these efforts, the social context still controls the Arab society and cultural beliefs play a great role in predicting resistance to technology transfer.

### **5.8. The Limitation of E-learning**

Several limitations of e-learning have been isolated, many of which affect the students directly (Al-Fahad, 2010). Some of these e-learning disadvantages include a prerequisite to computer literacy and availability of computer equipment (Al-Wehaibi et al., 2008; Al-Fahad, 2010) as ability to access the course is determined by ICT skills (Wong, 2007). The involved individuals are required to have basic computing knowledge while the implementation of any e-learning program will call for hardware resources (Al-Fahad, 2010). Therefore, women in need of an e-learning system to acquire higher education must have the minimum computing skills and access these tools in order to make e-learning a success. Even with the necessary computing

knowledge and computer applications, e-learning is not feasible in all subject areas such as those that require illustrations, physical practice, public speaking or sport practice. E-learning programmes demand strong learner's responsibility based on the student-centred design of e-learning (ibid). For learners to grow, their personal attributes must advocate strong organisational skills and ensure unequalled time management strategies (Woodill, 2007).

Additionally, the learners must be self-motivated to ensure assertion of more efforts for academic and professional excellence (ibid). Unless well motivated, learners will drop out of the course and fail (Mirza, 2007). The flexibility of e-learning programmes and the independence of learners may create confusion with regard to course content and deadlines (Woodill, 2007; Mirza, 2007), this is mainly due to the absence of traditional classroom environment (ibid). Moreover, learners may be left out by fellow classmates or neglected by their lecturers (Al-Wehaibi et al., 2008). Laxity amongst lecturers may prevail to the extent that they are unavailable when learners are in need of their services (Woodill, 2007). The lack of relationship between teacher and student might also make students feel isolated (Al-Fahad, 2010), which is demotivating, and the lost social interaction with peers can lead to feelings of isolation and loneliness, and less enjoyment of learning. Supporting this view, Tamimi (2013) stated that using e-learning will have a negative impact on women as it will encourage their men to reinforce their isolation. Sharkey (2014) supports this view by stating that technology would reduce the opportunity of social interaction in its natural place, especially for vulnerable people such as women. Internet connectivity is another impeding factor

whereby the speed of connections matter (Al-Wehaibi et al., 2008). The performance of older versions of computers may negatively affect e-learning platforms (ibid). Sharkey (2014) adds an interesting point, which is that technology e.g. e-learning could limit the freedom of vulnerable people (in this case women) because of its process that allow others, usually men, to monitor their access and use of it. This is in contrast with the capability approach principle of increasing the freedom of individuals. This is in line with dystopian views of technology which see it as an evil that leads to restrict human freedom (Dima-Laza, 2012; Rambe and Nel, 2014). However, this is in contrast with utopian views of technology which believe that technology (e-learning) is as an opportunity to not exclude students from completing higher education (Sahay, 2004; Dima-Laza, 2012; Rambe and Nel, 2014). Supporting this view Sharkey (2014) states that the development of technology such as e-learning would increasingly facilitate the opportunity of meeting some needs of vulnerable (women in this case) people such as education (Sharkey, 2014). Thus e-learning may not suit all students but new technologies can provide a solution to problems faced in Saudi Arabia especially for women's education.

## **5.9. Summary**

The introduction of e-learning in higher education, as geared by technological developments in ICT, has enabled Saudi women to acquire higher education, acquisition which would otherwise be hampered by the prevailing social and religious practices. The role of social-cultural practices and religious beliefs is not essential on account of their implications and the challenges they pose to the attainment of higher education by Saudi women.

The advent of ICT and its management of higher education systems has stimulated the strong foundation for e-learning programmes in Saudi universities and has afforded female students an opportunity to acquire higher education. Principally, in Saudi Arabia, the provision of e-learning and distance learning has opened up avenues in higher education for women, which had been closed by aided social and religious norms rooted in male dominion and gender segregation against women. There are several limitations affiliated to the flawless implementation process of e-learning in higher education mainly due to the lack of computing facilities and low level of computing literacy amongst Saudi women. The student-centred approach is an advantage and a disadvantage in the sense that students' maturity and attributes defining their time management skills and responsibility must be anchored in the e-learning process to deliver academic and professional growth.

**In conclusion**, the literature related to the current study and required to be addressed was reviewed in the last four chapters. It started from chapter two as it concentrated on the need of capability approach to enhance women's freedom in Saudi society which will lead to enhance their chances to take the advantage of e-learning. The third chapter focused on women in the Saudi society and their position as well as the significant role society plays in women's ability to complete their higher education. Saudi society is a unique mix between religion and culture which poses difficulties for the government over the education of women. Any mode of learning must take account of the cultural context to have a positive impact on women's access to education. The fourth chapter covered the state of Saudi women's higher education as it has increased, but equality of access across the country is still not provided. Chapter



five focused on the status of e-learning in Saudi higher education which the Saudi government has paid considerable attention to improve the educational opportunities of their citizens especially for women by providing good technical facilities for e-learning at Saudi universities to present a good quality of education. However, e-learning is still in the early stage of its development at Saudi higher education, but it is growing fast because of the availability of appropriate facilities and possibilities provided by the government such as the development of communication networks (internet).

From the above discussion, it can be seen that the adoption of e-learning in Saudi Arabia provides opportunities for women which were previously inaccessible. This is due to the fact that Saudi Arabia is one of the countries with a high birth rate, thus the education institutions are facing an increasing demand for enrolment. Traditional learning environments cannot grow at a rate that will match the growth in the demand for enrolment. In Saudi Arabia, the above literature has demonstrated that culture and religion influence the social lives of women to a very high degree. These limit the extent to which these women benefit from the new advancements in IT, especially in the education sector. In addition, the above literature indicates that there is a lack of research that explore the ability of Saudi women to convert the opportunities offered by e-learning into valuable educational achievements as well as illuminate their ability to access and use such technology freely which is very important for them to take an active part in the design of this technology as it will enhance the success of the adoption of this technology. Therefore, the next chapter will examine the sort of methods and methodologies that will be relevant to this research in order to identify

how Saudi women can convert the opportunities offered by e-learning into valuable educational achievements through the capability approach, while drawing from the grounded theory.

## 6. Research Methodology

In this chapter, the theoretical framework, the research philosophy and the design and approach of the study are discussed. In addition, the methods that were used in sampling, collecting and analysing data to fulfil the purpose of the study are introduced. The research methodology, according to Kothari (2004), is “*a way to systematically solve the research problem*” (p. 8). This includes the research methods and also the logic behind choosing those methods and their appropriateness in the context of the study. It is necessary, therefore, to select methods to both collect and analyse data to address the research questions and achieve the research objectives (Kothari, 2004).

### 6.1. Theoretical Framework

Using a theoretical framework allows the researcher to have a better expansion of research analysis and to choose the appropriate research methodology (Anfara and Mertz, 2006; Alebaikan, 2010). In the unique context of Saudi Arabia, the study examines the ability of Saudi women (capability) to convert the opportunity offered by e-learning into a valuable educational achievement (functioning). The capability approach adopts to draw the guiding theoretical framework to provide a strong foundation and address the developmental theoretical insights of this particular study as well as to elucidate the nature of Saudi women from the societal perspective.

The capability approach provides a rationale that highlights the ability of individuals (Saudi women) (Sen, 2009; Comim, 2001). By understanding the factors behind their ability to use e-learning to achieve their higher educational goal, this framework

provides an integrative angle that is based on what these women are capable of (ibid). Focusing on being and doing (functionings) as well as the freedom to achieve the goal (capability), instead of the goods and resources that a person can access or possess, are the essential characteristics of the capability approach (Sen, 2009; Robeyns, 2008). The capability approach should concentrate on the real space of freedom by measuring the ability of people (Saudi women) to make their own choices to achieve what they consider to be valuable beings and doings (functionings), so people's capabilities (freedom) are more important than their functioning levels in the capability approach (Alkire, 2002; Robeyns, 2005; Sen, 2009). Robeyns (2003) clarifies this by saying, *"what is ultimately important is that people have the freedoms (capabilities) to lead the kind of lives they want to lead, to do what they want to do and be the person they want to be. Once they effectively have these freedoms, they can choose to act on those freedoms in line with their own ideas of the kind of life they want to live."* (p. 95). In this regard, it becomes necessary to evaluate factors that affect the conversion of e-learning opportunities into valuable goals of achieving educational excellence instead of focusing on the real resources in terms of monetary value (Alkire, 2005; Sen, 2009). Even when focusing on functionings and capabilities, other dimensions such as resources, technical advancement and so forth can also be important when capability analysis is processed (Robeyns, 2003).

The notion of ability to account for human diversity is one of the important features of the capability approach (Sen, 1992; 1999; Robeyns, 2005). Based on individual differences, the conversion of resources into capabilities is affected by three types of conversion factors namely social, personal, and environmental issues (Sen, 1992; 1999;

Robeyns, 2005; Comim, 2008). Therefore, a person's capabilities cannot be assessed separately by the resources that he or she can obtain but have to be measured in terms of what he or she is capable of doing and being using these resources (Comim, 2008), and by knowing a lot about the person and his or her conditions of living (Robeyns, 2005). Thereby, the capability approach is important in illuminating the ability of Saudi women (capability) to convert the opportunity offered by e-learning (resource) into achieving their higher educational goal (functioning) as it should be done in light of social, personal and environmental factors and their impact on the women's choices of their values and of the good life they want to have.

According to Nussbaum (2000), *"women are not treated as ends in their own right, person with a dignity that deserves respect from law and institution. Instead, they are treated as mere instruments of ends of others"* (p. 2), so, she attempts to apply the capability approach to enhance women's human life and to live in dignity because they have not got the fundamental support that they should have for leading their lives as a full human (Nussbaum, 2000; 2005). Through the capability approach, there exists a vast potential to cover feminist concerns and issues. According to Sen (1999), cases of inequality of women can only be illuminated from an intrinsic approach. This can be achieved by analysing the functioning and capabilities of the study subjects, instead of just considering the means of fulfilling them, such as resources (Alkire, 2005). According to Sen (1999), when addressing women's issues, gender inequality should be considered.

The capability approach is concerned with the pursuit of a good life for all (Zheng and Stahl, 2011), and the current study focuses on Saudi women and their ability to pursue higher education, along with the consideration that they live in a conservative society where men dominate in all aspects, as well as the fact that equality between men and women does not exist (Doumato, 2010). Thereby, the capability approach provides an essential framework in understanding the nature of gender inequality through women's social roles and experiences, their social relations with men and also the promotion of women's rights (Brym and Lie, 2010).

Because of the effect of the social as well as cultural context in understanding the experiences of Saudi women with higher education and their ability to take advantage of e-learning (capability) to achieve their educational goal (functioning), the capability approach is appropriate to guiding this study. Therefore, the selected theoretical framework led me to choose a research methodology that considers understanding the nature of a socially constructed reality to be central to the research activity and to understand the social roles of Saudi women, their interests and experiences in the ability of using e-learning activities.

## **6.2. Research Philosophy (Paradigm)**

A research philosophy is a belief or deliberation on how the researcher will gather, analyse and use data about a phenomenon (Walsham, 2006). This means how the information concerning a phenomenon will be developed and used to resolve the research questions (ibid). Saunders et al. (2007) explain that the research philosophy should compel the researcher to think deeply about how the information is going to be

used, enabling them to collect data that is both sufficient and appropriate. The authors further note that a research philosophy can develop and change. The underlying assumptions of the research can fall under different philosophies including positivism (scientific), interpretivism (also called anti-positivism) or critical (Myers and Avison, 2002; Oates, 2006; Saunders et al., 2007). Therefore, it is necessary to discuss the main philosophies used in the research in order to know the appropriate approach or philosophy that could help the researcher to gather and analyse the data about the phenomenon under study (ibid).

#### **6.2.1. Positivism**

Under positivism, reality is perceived as stable and can be observed and explained from an objective perspective (Shanks and Parr, 2003; Oates, 2006). Positivism emphasises the isolation of a phenomenon and the repeating of observations. It therefore involves the manipulation of the phenomenon by varying independent variables in order to establish regularities in and relationships between some of the elements that constitute the social world (ibid). These variables often set out to examine theories through the formulation of hypotheses that must be tested to increase the understanding of the subject of the study (Myers and Avison, 2002). However, the authors contest that research based on positivism often begins with preconceived ideas on how these elements are related. The focus of a positivist research is intended to be based on facts and objectivity, during the collection as well as during the analysis of data, and generally requires collection of large samples of data (Shanks & Parr 2003; Oates, 2006; Saunders et al., 2007). As such, positivism is not suitable for this particular study which is focused on meaning as it seeks to

understand the experiences of Saudi women with regard to higher education and how e-learning could be helpful to them as well as on their ability to take the opportunity offered by e-learning effectively. Since the phenomenon was studied in its social context, as Walsham (2006) and Oates (2006) indicate, this does not come under positivist philosophy. As such the study collected data from a small sample size because of the time constraints due to taking in-depth interviews which are time consuming to administer, transcribe and also interpret because of their open-ended discursive responses. Another reason would be the resource constraints, which are social customs and religious beliefs. For instance, women are not allowed to make a direct contact (face to face) with men who are not relatives of them because of the Saudi social and religious norms but they might do so on the telephone or if a man related to them is present since they have then sought the approval from their male guardian (father, husband and brother). Positivism stresses that *"the world exists independently of humans, not just in their minds"* (Oates, 2006, p. 286), which is opposed to the aim of this study as it seeks to understand the ability of Saudi women (capability) to convert the opportunity offered by e-learning (resource) into a valuable educational achievement (functioning) based on the participants' view and beliefs. As such, the positivist philosophy is not suitable for this particular study.

### **6.2.2. Interpretivism**

The interpretivist approach is based on the premise that differences exist in the way humans interpret phenomena, as well as their social role or contribution towards the phenomena, and that these differences in social construction, by human actors, must be appreciated and taken into account by the researchers conducting social studies



(Orlikowski and Baroudi, 1991; Walsham, 2006). The authors argue that the interpretive approach begins with the understanding that our knowledge of a phenomenon or reality, together with the field of human action, is a social construction (interpretation) by human actors. Human theories regarding reality signify how they make sense of what is happening in the world around them and shared meanings fall under subjectivity as opposed to objectivity (Walsham, 2006; Oates, 2006). Interpretivism therefore asserts that it is only through subjective intervention as well as interpretation that phenomena can be fully comprehended (ibid).

According to the approach, the phenomenon should be studied in its natural environment to be fully understood (Orlikowski and Baroudi, 1991; Walsham, 2006), as this study does by seeking to understand the factors that could impact on women's ability to convert the opportunity offered by e-learning to achieve a valuable educational outcome. So this approach is more suitable for this study. Walsham (2006) and Oates (2006) explain that in interpretative research, the data collected is the researcher's construction or understanding of other people's (the subjects') constructions of the phenomenon being investigated. Interpretivism contends that there are many constructions of reality and that these vary across place and time (Balnaves and Caputi, 2001; Oates, 2006). In the current study for example, the factors that would affect the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement could vary across different places in the kingdom as well as across time, as current factors might not be the same ones

affecting these women in the future, and it is the role of the researcher to develop the interpretations based on the evidence found in his own construction.

Williams (2000) notes that, according to the interpretivism approach, phenomena influence the social context (human action) and are also affected by it. The fact that the context of the research and the approach and interpretation are social constructs of the researcher, and the responses given by the participants are a reflection of the same, means that the interpretive philosophy is applicable to this specific study (Oates, 2006). This is because it is used to explain the effects of e-learning on higher education opportunities for women in Saudi Arabia and how e-learning is affected by the customs and religious beliefs held by these women.

The Interpretive approach requires the researcher to carry out an in-depth study by gathering data and analysing it before making any deduction (Walsham, 2006; Oates, 2006). It requires the utilisation of a qualitative approach to collect data (ibid) and therefore does not require large samples because of its inductive nature (Cohen et al., 2010). It therefore matches the way the current study needed to collect data which was in sufficient depth and detail to enable the researcher to understand the complex factors influencing women's ability to access and use e-learning effectively to lead them to complete higher education courses in Saudi Arabia. As this study attempts to identify the dimensions that characterise the capability requirements to apply the uptake of e-learning by women in Saudi Arabia as well as to understand the current situation of Saudi women's ability to access and use e-learning freely through their interpretation, interpretivism would be a suitable philosophy for this study.

### 6.2.3. Critical Theory

Critical researchers argue that “*interpretation and understanding*” of the current world “*are not enough*”, so they would go beyond that by looking to “*identify and challenge the conditions of domination, and the restrictions and unfairness of the status quo and taken-for-granted assumptions*” (Oates, 2006, p. 297). The critical theory approach seeks to examine and critique society and culture using knowledge derived from various social sciences (Myers and Avison, 2002; Feenberg, 2005; Oates, 2006). This approach focuses on “*the power relations, conflicts, contradictions*” and oppositions in present-day society, and aims to understand and explain the way society works in order to eliminate systems of domination or dependence (Myers and Avison, 2002; Feenberg, 2005; Oates, 2006, p. 297). In addition, finding alternatives to existing social conditions, according to Ngwenyama (2002), leads to improving the human situation and addresses human desires, which are the primary objectives of the critical social theory. Since this is a social context, critical researchers assume that social reality is constructed from historical phenomena so that people’s behaviour and beliefs are the result of various social, cultural and political domination (Myers and Avison, 2002; Oates, 2006). According to these authors, social critique and change is the main mission of critical research. The critical and evaluative dimensions are the important features of the critical research philosophy (Orlikowski and Baroudi, 1998; Oates, 2006). According to Zheng and Stahl (2011), both critical theory and capability approach seek to enhance people’s life. Therefore, the critical theory could form the underlying philosophy for the research because of its attempts to critique the situation of women in Saudi society and to find ways to improve their ability to access and use

e-learning freely as well as its efforts to enhance their situation in such society. However, this does not go well with this research aim as it seeks to understand the current situation of Saudi women's ability to access and use e-learning freely and to identify the factors that would enable or prevent them from accessing and using e-learning efficiently as a method to attain a valuable educational outcome. As such, the critical theory is not suitable for this particular study.

### **6.3. Research Approach**

Research can be conducted using either a quantitative or qualitative approach (Kothari, 2004; Saunders et al., 2007). Therefore, it would be worthwhile to discuss both of these approaches to discover which one might be the suitable approach for this study.

#### **6.3.1. Quantitative**

A quantitative approach is often used in positivism and is hence objective, focused on facts, formulated ideas and hypotheses about how variables or concepts are interrelated before studying them, it also collects data under controlled conditions (Kothari, 2004; Punch, 2005). In the quantitative approach, according to Kothari (2004), data is collected from large samples and structured and formal instruments are used in the data collection. The quantitative approach has one main advantage in that it generates data that can be generalised to a large population because it uses large samples and structured instruments (ibid). The author further notes that the phenomenon is also reduced to few and simple elements which are observed instead of looking at the phenomenon in its entirety. The quantitative approach is therefore

not suitable for this study which will focus on generating meanings from the experiences of the subjects and studying the research problem in its totality so as to offer solutions. This study also seeks to obtain rich and in-depth information to allow development of an integrated model of the dimensions that characterise the capability requirements that apply to women in Saudi Arabia using e-learning in order to improve their higher education opportunities. A quantitative approach tends to be deductive, moving from general theories to specifics, and does not go well with the proposed grounded theory design which is inductive (Heath & Cowley, 2004). Based on the purpose of the study, the quantitative approach will not be suitable as it will not provide sufficient insight and detail to achieve the study's objectives.

### **6.3.2. Qualitative**

To ensure this research achieves its stated objective and answers the research questions, the study uses a qualitative approach in the collection and analysis of data. Walsham (2006) and Oates (2006) explain that the interpretivist approach requires utilisation of a qualitative approach to collect data because through using structured and in-depth interviews, focus group discussions and observation, it can yield in-depth, detailed data (Kothari, 2004). A qualitative approach also allows the subjects to give their opinion and to express themselves about a phenomenon in their own words (Tewksbury, 2009). By contrast a quantitative approach seeks to identify and explain the meaning of a phenomenon as opposed to measuring and determining its frequency (Kothari, 2004). Qualitative research employs a range of techniques to explore the complexity and depth of the phenomenon through interaction, observation, documentation and critical analysis of the situation (Tewksbury, 2009). As

such, a qualitative approach gives descriptions that are rich in detail, based on the subjects' personal experiences of the issue under study and hence enable the researcher to fully understand the peculiarities of the phenomenon (ibid).

According to Creswell (2007), the qualitative approach often uses open questions requiring a discursive answer which can be led by the participant, often using command words such as 'what' or 'how' to invite such a response. As such, this goes well with the research questions of this study. However, such responses, while they give details, are very difficult to convert into a form that can use statistical or numerical analysis. The current study is one of exploration of experiences and beliefs and so this matches well a qualitative approach as it allows subjects to explain and expand on their views and feelings hence giving the researcher greater insight into their experiences within a social context. Such data does not fit well with the concept of reducing it to simple numerical information. Based on these features, a qualitative approach will be the best approach for this study as it matches the proposed interpretive philosophy.

#### **6.4. Research Design**

According to Maxwell (2008, pp. 2-3), the design of research is *"like the design of the [Vasa], it is real and will have real consequences"*. The research is carried out through different steps to achieve its objectives (Bryman, 2008) and the research design is made up of data gathered and analysed (Strauss and Corbin, 1998; Bryman, 2008). Research design is *"the logic that links the data to be collected to the initial questions of study"* (Yin, 2009, p. 10). The main qualitative research designs are case study,

ethnography and grounded theory (Punch, 2005; Creswell, 2007). Therefore, it would be worthwhile to discuss all of them to discover which one might be the suitable design for this study.

#### **6.4.1. Case study**

The case study is *“an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used”* (Yin, 2009, p. 13). Therefore, case study aims to study complex phenomena within their context, in a natural setting, to understand them exactly and in depth (Punch, 2005; Creswell, 2007; Baxter & Jack, 2008). While certainly the case study approach is useful as an exploratory tool, and indeed it can be used when a small number of cases are being considered, it is usually applied when a complex issue has already been studied to add to what is already known through previous research (Yin, 2009). In the current study each interview could be considered to be an individual case study, but in their totality the individual respondents do not form a coherent group and cannot be treated as a case study (Soy, 1997). Therefore, case study is not suitable for this study.

#### **6.4.2. Ethnography**

The design of ethnographic research is focused on human behaviour in terms of the cultural context, by observation in the normal environment for a long period of time (Punch, 2005; Creswell, 2007; Yin, 2009). It aims to investigate and understand a cultural phenomenon which is as a result of the knowledge and systems of meanings of a cultural group (ibid). If the current study merely wished to explore and understand

the cultural influences on women in Saudi Arabia, which prevent them from completing their higher education, then this method could be appropriate. However, the current study seeks to do so much more than this, not only to understand these influences and barriers but also to devise a way forward, through e-learning, to open up possibilities for continuing education. Therefore, an ethnographic approach would be limiting and unsuitable for this study because it is not possible for the observation of female participants to be made by a male researcher, due to the social and religious restrictions within the Saudi culture.

#### **6.4.3. Grounded Theory**

Glaser & Strauss (1967) first described the grounded theory as the process used to discover theory from data systematically acquired from social research. The grounded theory can be used as a method of analysis where data requires constant comparison (Strauss & Corbin, 1990; Mills et al., 2006) and the researcher identifies properties and categories developed from continuous comparison of data (Fernández, 2004). A pattern or category evolves from the data analysis and may stand as a concept or theory on its own (Strauss & Corbin, 1990). The grounded theory entails the coding of data, which is one of its most central processes (Mills et al., 2006; Bryman, 2008). Glaser & Strauss (1967) developed various coding techniques including open, axial and selective coding, which were all used in this study. The grounded theory therefore is *“a style of qualitative analysis that includes a number of distinct features namely theoretical sampling, constant comparisons and the use of a coding paradigm to ensure conceptual development and density”* (Strauss, 1987, p. 5).



The grounded theory involves development of the theory from analysis of the data rather than having preconceived theories and using them to guide the study (Kothari, 2004). It means developing a theory or concepts that are grounded in systematically collected and analysed data (Strauss and Corbin, 1990). Strauss and Corbin (1990, p. 24) contend that the grounded theory is an inductive detection process that enables the researcher to build up and establish a theoretical explanation of the broad features of an issue whereas at the same time grounding the account (description) in empirical data as well as observations. The authors describe grounded theory as a qualitative research technique that employs systematic procedures to build and develop a grounded theory that is inductively derived from an issue or phenomenon. The grounded theory primarily seeks to expand the explanation of the issue under study by determining the main features and elements of that issue and then classifying the relationships of the identified elements to the situation as well as the process of the study (ibid). In other words, the goal of the grounded theory is to move from what is known as general to what is more specific, but without losing sight of the features and elements of the subject under study (Heath & Cowley, 2004).

In the current study, the key points arising from the analysis of data are marked and those that are similar in content and concept are categorised together (Scott, 2004). It is these categories that the researcher used as the basis for the development of the new theory, reverse hypotheses and inferences. The grounded theory emphasises that the interplay between the process of gathering data and the analysis should be continuous until data saturation is reached (Strauss and Corbin, 1990; 1998). The grounded theory is based on three essential elements: concepts, propositions and

categories, traditionally referred to as hypotheses (ibid). In the grounded theory, concepts are however key aspects of the analysis, as the theory is built from the conceptualisation of the analysed data as opposed to the actual data itself (ibid).

The grounded theory was selected as the research design because, as Strauss and Corbin (1990) argue, it is a qualitative method that requires gathering detailed data to give in-depth analyses that will be sufficient to develop theories and hypotheses. It therefore goes well with the interpretive philosophy selected to guide the methodology process (ibid) and also requires research questions to be general and stated in an open manner rather than formulated as hypotheses from the beginning. In addition, as critical theory could form the underlying philosophy for the research and the existence of correlation between grounded theory and critical theory in sharing their interest in studying society in its natural situation (Annells, 1996), this would lead to reinforcing the use of the grounded theory in this research instead of other methods. Myers and Avison (2002) note that the design of the grounded theory is increasingly being used in information technology (systems) research as the approach is very useful when developing descriptions as well as explanations of the issue under study (phenomenon) that are context-based and process-oriented. In addition, the emerging theory should describe a phenomenon that is important and relevant to those participating in the study (Strauss and Corbin, 1990). Based on the purpose and significance of this study, the grounded theory is applicable and appropriate to achieve the research objectives. Therefore, the grounded theory was employed as a research design in this study in order to conduct a qualitative investigation of the subject matter and to comprehensively understand the issue under investigation.

While using the capability approach as a foundation and an inspiration for this study, it was also involved in the design of the research, as it looks at those dimensions that would affect Saudi women's capability to take up e-learning by thinking in terms of their ability to access and use it freely as well as the power they have got to do so.

## **6.5. Study Population and sample**

### **6.5.1. Study Population**

This study was carried out in the Kingdom of Saudi Arabia. This is a large country with rugged terrain. There are eight regions in the North and South of the Kingdom each with their own main city and a number of provinces. The number of female students is high (see figure 1-8 from section 1.3) and it is difficult to gain access to these women. Therefore, this study was focused on Najran as a sample of the Southern regions and Northern Border as a sample of the Northern regions of the country. These regions have been chosen because the number of females who have bachelor degrees and above are lower than in others regions (see figure 1-5 from section 1.2), as well as the fact that they are a combination of conservative and tribal societies. Thereby, they provide a richer pool of non completers of higher education or of women who have not entered higher education than the other regions.

### **6.5.2. Study Sample**

*"Choosing a study sample is an important step in any research project since it is rarely practical, efficient or ethical to study whole populations" (Marshall, 1996, p. 522).* In this regard, this study was carried out in the Kingdom of Saudi Arabia specifically in Najran and Northern Border regions. However, there were difficulties experienced by

the researcher when gathering the data because of the above stated gender segregation, but also because the regions are large with dispersed populations and the rugged terrain makes access difficult and costly. In such areas, away from the larger more westernised cities such as Jeddah and Riyadh, social and religious restrictions are greater which also makes accessing the required sample difficult. Creswell (2007) recommended interviewing 20 to 30 individuals in grounded theory design and so this will be sufficient for the current study. In a worked example of the grounded theory carried out by Sbaraini et al. (2011), which is similar to that adopted for this research, 20 to 30 participants were selected. According to Sbaraini et al. (2011), grounded theory studies are usually characterised by some form of theoretical sampling, hence the need for suitable data collection. They require for the sampling to be purposeful, which justifies the choice of the population size. Even if some researchers argue that the sample size in this type of study is affected by numerous factors, according to Morse (1994), 30 to 50 interviews are to be used. The size of our study sample falls within the 20 to 30 bracket, being 24 participants (see table 6:1). In order to ensure the study goals were fulfilled, the participants who took part in this study were chosen under the following criteria:

- Women who live in the Najran or Northern Border regions.
- Women who have finished high (secondary) school.
- Women who have not taken up higher education or have dropped out of higher education or are currently using e-learning in their higher education.
- Women who have access to the internet in their home.

### 6.5.3. Sampling Technique

Selecting the appropriate sampling technique plays a part in research quality (Cohen et al., 2010). Therefore, researchers need to select between the two main methods (techniques) of sampling, which are probability (random sample) and non-probability (purposive sample) (Bryman, 2008; Cohen et al., 2010). The authors further note that probability sampling tends to be a suitable technique for quantitative research, a belief also held by Punch (2005), who notes that it is rarely used in qualitative research. On the other hand, non-probability sampling tends to be a suitable procedure for qualitative research. Marshall (1996) agrees saying that, *“a random sample provides the best opportunity to generalize the results to the population but is not the most effective way of developing an understanding of complex issues relating to human behaviour”* (p. 523). He explains that some information from some participants in qualitative research is richer than that from others and as a result provides insight and understanding for the researcher. Therefore, purposive (judgemental) sampling was employed in this study because it is recommended with qualitative research (Bryman 2008) and it also is the most common sampling technique in qualitative research (Marshall, 1996). According to Saunders et al. (2007), this technique might be employed by a researcher who implements the grounded theory strategy. Since qualitative research seeks to understand a phenomenon or experience, it is important that the researcher selects subjects that are knowledgeable with regard to the experience (Polkinghorne, 2005) and will provide sufficient quality and detail in responses that the researcher will be able to fully understand the subject matter (ibid).

The selection of the sample for qualitative studies should not be left to chance by randomisation (ibid). Purposive sampling is therefore more appropriate to the current study as it allows respondents from whom substantial information can be obtained to be selected (Punch, 2005; Polkinghorne, 2005). The researcher selected only those women who meet the conditions of the study sample selection which are indicated in the previous section, who have experienced, or are experiencing the issue under study directly, from the society using purposive sampling technique alongside with the theoretical sampling technique of grounded theory (cf. Section 6.6.3.3).

## **6.6. Data Collection**

In this section, the method and process of data collection were used, and intermediary of data collection will be discussed below.

### **6.6.1. Method**

Different forms of data collection methods might be used in qualitative research such as interview, observation and documents (Punch, 2005). However, the interview method is the most widely employed (Bryman, 2008) and in the grounded theory it also plays an essential role (Creswell, 2007). Punch (2005) agrees, stating that one of the main tools to collect data in qualitative research is through interview because *“it is a very good way of accessing people’s perceptions, meanings, definitions of situations and constructions of reality”* (p. 168). Therefore, the interview method was used to gather data in this study.

There are three different types of interviews (Punch, 2005; Bryman, 2008) which are structured, semi-structured and unstructured. In a survey (quantitative) research, the

structured interview is most commonly used because it is similar to a questionnaire in that it presents prescribed questions and elicits simple answers. The other forms go well with qualitative research because they are flexible and less organised, so giving the interviewee the chance to speak freely and express their feelings in their own words (ibid). However, the semi-structured interview allows the interviewer to guide and focus the respondent to answering questions designed to pursue the purpose of the research. Without any such structure the respondent is likely to provide his or her own view of the situation and not address the focus and purpose of the research.

Semi-structured interviews are recognised as one of the tools (methods) to use when collecting data in interpretivist research (Saunders et al., 2007). According to Saunders et al. (2007) and Bryman (2008), semi-structured interviews make it possible for the researcher to collect in-depth data as they allow the respondents to give their interpretation of the phenomenon in their own words, based on their experience. Unlike structured interviews which are limited to seeking in-depth information, semi-structured interviews allow the researcher to capture the feelings of the respondents in addition to their views and opinions about the study problem (Saunders et al., 2007). The authors further note that data collected using semi-structured interviews also allows the researcher to identify any themes regarding the phenomenon that has not been identified during the formulation of the research questions. Therefore, the semi-structured interview was used instead of the other forms to collect data relevant to this research as it provides more flexibility for both the researcher and the participants by allowing the latter to present more information and the researcher to

ask additional questions (Kvale and Brinkmann, 2009), which goes well with the data that is required for this research.

#### **6.6.2. The Intermediary (Proxy)**

The intermediary can be used by researchers to conduct interviews on different occasions which depend on the research status, even if direct interaction between researchers and participants is preferred (D'Eath, 2005; Gill et al., 2008; Nind, 2008). The use of intermediaries involves the use of other parties or partners to collect data on behalf of the main researcher or participants, so the researcher receives the collected data from the intermediaries otherwise known as proxies (ibid). D'Eath (2005) and Nind (2008) stated that using a proxy would probably be an alternative approach that can be used by researchers, as there is no other way to address their difficulty to communicate with participants (in this case Saudi women) even if it might result in losing or misunderstanding some information. It could increase the effectiveness of interviews. This is in line with Whitehurst (2007) who said that another person could be used to collect information from participants when the researcher faces particular challenging communication problems with them and that person should be someone participants feel comfortable with. For example, in her study, Wenger (2002) used a proxy interview approach to collect data from older participants who were experiencing speech impairment. This is in line with Morse (2002) who advocates the use of this method, especially when conducting research with chronically ill people. Gill et al. (2008) observed that the use of intermediaries is preferred particularly in contexts when researchers cannot reach the subjects. In cultures where females are not allowed to interact with males regularly, a male data



collector may not be able to collect data in a study involving women; the researcher has then to engage a female intermediary to carry out the data collection process (Mack et al., 2005).

In this study, because of the existing social and religious barriers which do not allow male researchers to freely interview women since Saudi Arabia is a socially and religiously conservative country (Metz, 1992), the data collection regarding a male researcher working within the constraints of gender, religious and social norms is discussed below (Al-Kahtani et al., 2006). If a man wants to interview a woman who is not related to him, he needs to submit his research questions to the participant through one of her male relatives because the researcher is not allowed to interview the woman directly (ibid).

The researcher addressed this issue by working with a female interviewer who conducted the interviews on his behalf as a suitable way to facilitate the data collection process. Thereby, the suitable substitute was the researcher's wife who, because of her gender, enabled participants to interact freely with her., as D'Eath (2005), Whitehurst (2007) and Nind (2008) stated that a person who knows the participants well should be used as a proxy. Because of her preparation she was more effective in the data gathering stage, which included: receiving training by the researcher to ensure her understanding of the research issues, was tested through the pilot study stage and showed her ability to be successful in data collection when she interviewed the female subjects as she had learnt the effective process of interviewing, but this also meant that data collection could be done by more than one person or

other people if necessary. In order to help the researcher to get sufficient data in this research, through the intermediary, the semi-structured interview was used as it is the ideal method in this case (Bryman, 2008). Bernard (1988), as cited by Cohen and Crabtree (2008), agrees with this and stated that when the researcher is sending more than one interviewer out (as this study did implicitly by using cooperation between the researcher and his wife) into the field to collect data the semi-structured interview is the best method to use.

In this study, the intermediary was used as a bridge to enable the researcher to conduct interviews with women participants, as he was not able to make direct contact with them. The intermediary played an assistant role by helping the researcher to get access to the participants. She was confined to asking the questions given by the researcher, writing the answers of the participants in their own words, making notes about the participant's reactions to the questions, contacting the researcher frequently by phone or messages to give him a brief on the participant's answers and reaction hence keeping him informed on the interview route in order to take his guidance based on the information given and the aim of research, and finally receiving follow-up questions from the researcher through the interview based on his interpretation of the participant's answers or actions.

To illustrate the intermediary involvement, in one interview for example the intermediary asked the participant a question about her ability to use technology such as the internet and a computer to complete her higher studies. Her answer was "no" and when the intermediary asked her why she would not be able to do so, she

answered there was no particular reason. After that the intermediary contacted the researcher and told him that the interview was stopped as she could not ask any further questions. In that case, the researcher advised her to redirect the interview and ask indirect questions to know her real ability and the reason behind it, such as if her husband was to come to her and offered the opportunity to complete her studies via technology what would she do. The intermediary tried that way and it opened the conversation again as the answer was “yes”, so based on that answer we knew the reason behind her inability was her husband’s support. Then the intermediary continued the interview by following the questions list the researcher gave her.

Another example would be the intermediary sending the researcher an image via her mobile to show and give him a brief as to the participant’s answers and her notes about the reaction of women towards some questions in order to let him interpret this information. From that message, the researcher noticed that the women used her female relative to help her overcome her inability to communicate with a man lecturer but the intermediary had not asked questions about how she did that and why her relative was allowed to do so while she was not, as well as without female relative support what would she do, so the researcher sent his comments to the intermediary and requested she asked more questions to cover this matter, which she did.

In another case, for example, the researcher noticed that the intermediary wrote a note about the participant’s reaction to one question by saying that the woman showed some discomfort when responding about her feelings regarding the role she usually played in her family (just looking after her husband and children) even if her

answer by opposition showed her satisfaction about her role. The intermediary did not ask a follow-up question about this note. Based on the researcher's interpretation, he immediately requested the intermediary asked further questions about this response by questioning the participant about her feelings if her husband allowed her to share with him the taking of important decisions about her family, including her own life.

In light of the above, the researcher was implicitly conducting the interviews even if it did not happen in reality, so the intermediary played the important and supportive role of helping the researcher gain access to the participants and allowing him to collect valuable data based on his views and interpretation. In spite of this, the researcher's inability to conduct the interviews by himself would however limit his ability to reflect on the context of the interviews, such as body language and environment.

### **6.6.3. The Procedure**

The process of conduct study and data collection followed three main steps which will be discussed below (see figure 6-1).

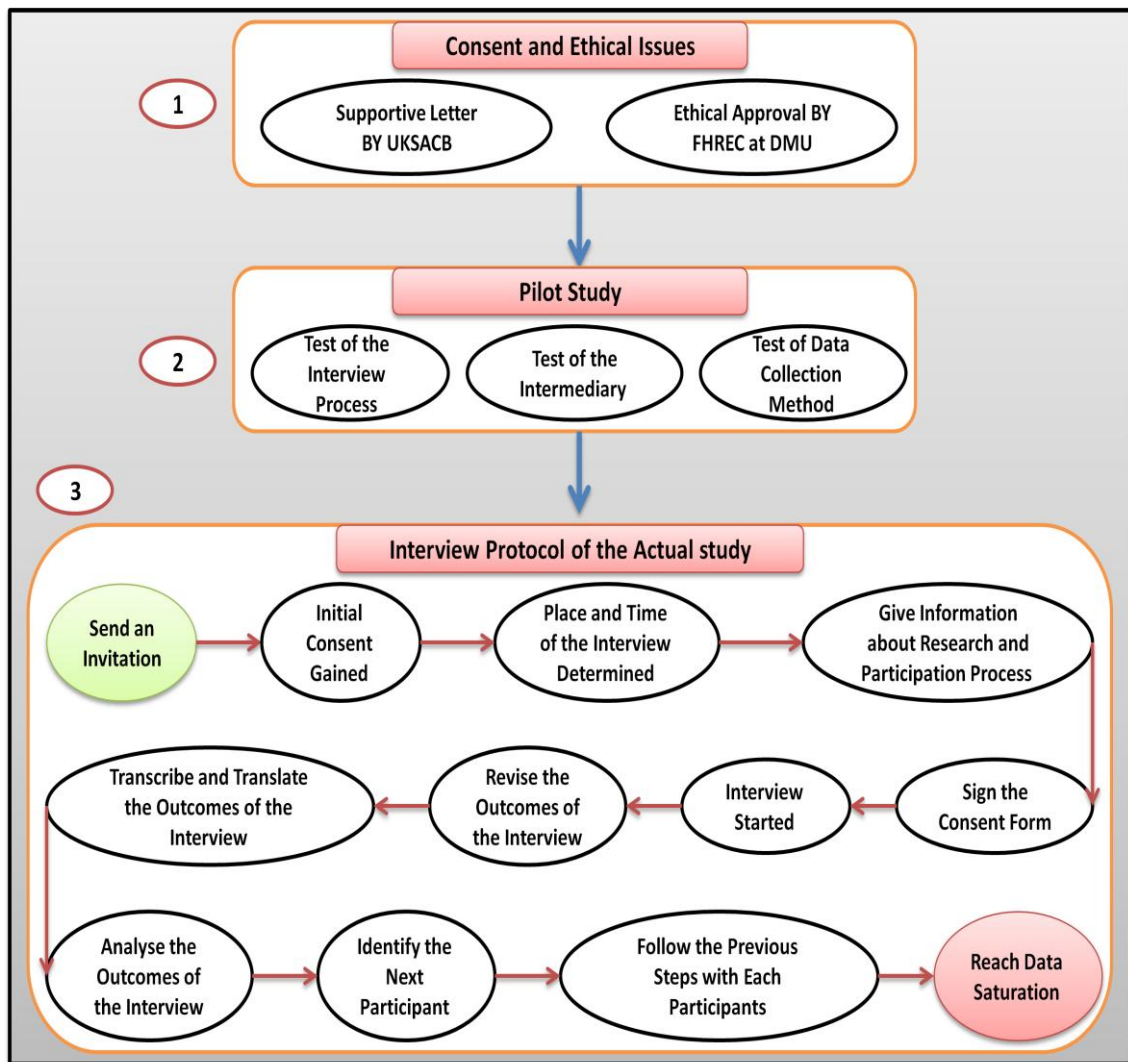


Figure 6-1: The Outlines of Data Collection Procedure

#### 6.6.3.1. *Consent and Ethical Issues*

Getting consent to perform the research is an important step before the data collection starts. In order to obtain the approval to accomplish this study, two procedures were used. The first permission was gained from the Faculty Human Research Ethics Committee (FHREC) at De Montfort University (DMU) for the Protection of Human Subjects in Research (see appendix 1), which called an 'ethical approval'. According to Kvale and Brinkmann (2009, p. 62), research using interviews

*“is saturated with moral and ethical issues”*. Both morals and ethics play a vital part in all type of research (Bryman, 2008; Cohen et al., 2010). Therefore, the researcher took into account the proposed and required ethical principles in the research. In order to achieve this, the purpose of the research, data collection methods as well as storage and use of the findings were explained to participants before involving them. Participation was voluntary and participants’ rights to privacy, anonymity, confidentiality and right to withdraw from the study were protected (see appendix 2). The researcher also obtained the subjects’ informed consent before involving them in the study (see appendix 3). While a second approval was attained from the Cultural Bureau of Saudi Arabia in the United Kingdom (UKSACB) by giving a supportive letter to help the researcher obtain participants’ consent (see appendix 4).

#### **6.6.3.2. Pilot Study**

Teijlingen and Hundley (2002) stated that *“Pilot studies are a crucial element of a good study design”* (p. 33). The term of pilot study (feasibility study) or (pre-testing study) refers to a small description of a full scale study, which means that it is basically a miniature picture of the proposed research (ibid). According to Teijlingen and Hundley (2002) and Thabane et al. (2010), building a good study design, testing, development and evaluation of instruments of research such as interview and questionnaire, and measuring study feasibility in order to avoid the potentially disastrous consequences of embarking on a large study are the main aims of a pilot study, as well as to examine research ideas, techniques and to investigate their implications (Maxwell, 2008), but also to refine the procedures and the content of data collection (Yin, 2009).

The pilot study aimed to test the tool that is designed for the research in order to ensure that it is fit for the purpose of meeting the research objectives as well as answering the research questions. In addition, it helps test the use of an intermediary (wife) to interview female subjects, which is a learning process for the intermediary, making her more effective if she is used for the main data gathering. This study was conducted on Saudi females who live with their related (mahram) male in the United Kingdom. The participants who took part in this study were chosen under some criteria such as them not having taken up higher education or having dropped out of higher education, as well as their background from the Northern and Southern regions of the Kingdom of Saudi Arabia. The interviews were conducted with five women by the female assistant using the face-to-face method. Interviews were not audiotaped because of the social culture that dictates that females do not agree to have their voices recorded. The tool (semi-structured interview) that had been chosen and tested indicated that it should be appropriate for the purpose of meeting the research objective as well as answering the research questions, and also to use an intermediary (researcher's wife) to interview female subjects, which was a successful attempt. However, the pilot study showed the need to update the tool as well as to improve the research questions and the interview process for the actual study.

#### **6.6.3.3.    *The Interview Protocol of the Actual Study***

After all of the above steps were followed, the invitation was given to some women in the Kingdom of Saudi Arabia who agreed to participate in the study (appendix 2). The method of selecting the participants was as follows: the first participant was chosen by the researcher directly from the society based on the literature (Strauss and Corbin,

1990), while the other participants were nominated by another participant when they were interviewed, which made it easy and fast for the researcher to find the appropriate participants for this study. Therefore, the judgment of who should be included in the interviews was made on a purposive foundation using a theoretical sampling process as a form of purposive sampling technique, as it allows a greater potential of data saturation (Strauss and Corbin, 1990; Morse, 1994).

Due to the culture of Saudi society in which women need to have male approval before taking part in such a study and the fact that they are not allowed to communicate with strange men (cf. section 2.2.3), the invitations were distributed to them through the researcher's female assistant or through their male guardian. In addition, the interviewer asked the participants to specify a suitable time and place to conduct the interviews. All the interviews were held in the participants' houses as they chose it to be the most convenient place for them. The researcher always transported and accompanied his wife (the researcher's assistant) to the participants' houses to do the interview. The researcher usually stayed outside the participant's house until the interview was finished to take her back home as she is not allowed to drive and move alone based on the conservative and tribal society where she and the researcher live.

Before each interview, the interviewer introduced herself as a researcher's assistant and the fact that she made the interview on behalf of the researcher (her husband) for cultural reasons. Additionally, even if the participants had a letter including an overview of the research and their participation's rights (see appendix 2), the interviewer reminded the participants of this information again before the interview



started. Thereby, she clearly informed the participants that they were free to withdraw their participation without any prior notice or explanation at any stage of the interview as their participation was not compulsory, and that they would be able to get a summary of the research findings, if they wanted. Then, the participants were given a letter that described some information to them such as the purpose of the study, what would be involved by their participation and how their confidentiality and privacy would be ensured. Additionally, they were given a participation consent form to sign before starting the interview (see appendix 3). However, taking female's consent to participate in this study was not enough and that became very obvious when the second interviewee asked to withdraw her participation as she faced some problems with her guardian who had not agreed for her to take part in this study as she had not informed him before giving us her agreement to participate. Based on that, the researcher decided to take females' guardian signature alongside their own in order to avoid any unexpected trouble in the future from participants' guardians.

The interviews were conducted using a semi-structured interview in order to collect more in-depth data. In order to ensure the understanding of the ability of Saudi women to achieve their educational goal via e-learning, more information about them and their life conditions were needed. Thereby, the interviews were started with background information about the participants and then focused on their story after graduation from high school as well as their position and role in their family and society at different times. After that, the participants were asked about their educational goal, their ability to take advantage of e-learning to achieve it and then to

focus on their thoughts about the future they wanted for themselves and their children (see appendix 5).

After each interview, the interviewer reviewed the answers to the interview questions with each participant in order to make sure they each had an equal chance to give their opinion using only their words, as well as to ensure that all of the information required was covered, as it would have been difficult to arrange another meeting with the participants. As a result, the interviews took a long time, lasting on average an hour and a half each. The interviews were conducted with 25 women, by the female assistant and using the-face-to face method, but one participant asked to withdraw her participation, so the final number of participants was 24 (see table 6-1). The interviews were continued until theoretical saturation of the categories was reached. According to Strauss (1987), it is wiser to transcribe all of the research interviews if this is the first study of the researcher in this type of research. Strauss and Corbin (1990) agree with that by suggesting that *"better more than less"*. In this regards, all of the study interviews were fully transcribed as they were not audiotaped because of the social culture that dictates females not to agree to have their voices recorded, as well as because this was the participants' and their guardians' condition to agree to take part in this research. In addition, as all participants in this study were native Arabic speakers, the interviews were translated from Arabic into English by the researcher and another person who is a specialist in both the Arabic and English languages. The method of reverse translation between the two languages, Arabic and English, was used to ensure there was no difference between the two versions.

Based on the theoretical sampling process of grounded theory which emphasises that data collection and analysis should be conducted at the same time and continue until theoretical saturation of the categories is reached (Strauss & Corbin, 1990) and also lead to knowing “*What data to collect next and where to find them*” (Glaser and Strauss, 1967, p. 45; Strauss, 1987, p. 38), the researcher analysed the data that he obtained from each interview straight away, which led the researcher to choose the next appropriate participant from those recommended by other participants as discussed above. This was continued until data saturation was reached.

Participants information		Regions				Total	
		Najran	Participants Number	Northern Borders	Participants Number		
Age	20-25	5	12	6	12	11	24
	26-30	4		3		7	
	31-35	3		3		6	
Level of Education	Stopped after high school	8	12	7	12	15	24
	Stopped after diploma	1		2		3	
	Studying via e-learning	3		3		6	
Total of Participants Number		12		12		24	
		24					

Table 6-1: Interview Information

### **6.7. Data Analysis**

The data collected brings light on the ability (capability) of Saudi women to convert e-learning into achieving their higher educational goal (functioning) through the perspective of the capability approach, while drawing from the grounded theory. Therefore, capability approach and grounded theory techniques to analyse data were employed as an analytical framework with overlapping and integrated form. A list of valuable dimensions that influence the ability of Saudi women to access and use e-learning freely to achieve their education goals was determined by applying the capability approach supported by the grounded theory.

In order to facilitate grounded theory analysis, some features of computer assisted qualitative data analysis software (CAQDAS), NVivo 10, are used as a supportive tool for quality of data analysis in this study. A combination between electronic (NVivo) and manual methods in the analysis process of the grounded theory was employed in order to achieve the best result by taking the best features of each (Walsh, 2002) (for more explanation cf. section 7.2).

### **6.8. Summary**

The way data is collected is the key to the success of any research project. While it is generally accepted that research should be replicable, the nature of the research topic and questions dictates the method of collection. In the current study, in-depth, detailed and insightful data, opinions and experiences needed to be collected and interpreted and so the positivist method which start with a premise of how the situation is in reality and seeks to test and ascertain whether these preconceptions are

borne out, was inappropriate. Instead, interpretivism provided the required data. The rationale is that humans interpret what they find in the world in terms of people and social structures, through their own, and their subjects', social construction. It is only through subjective intervention and interpretation that anything can be fully understood. Therefore in this context, the matter of whether research is replicable is less relevant as what is being researched is a social construct of the subjects and so quality and detail are more important.

This social research employed a qualitative rather than quantitative method of collection of data since, rather than requiring few and simple elements repeated over a large number of respondents, the current research required in-depth, detailed information and explanation of the subject matter. It also utilised the grounded theory to attempt to explain the issue and find possible solutions to the problem of enabling women in Saudi Arabia with access to education, because the grounded theory sets out to identify the key features and elements of the issue and classifies the relationships between the elements and the situation of the study. It also expects that there will be a continuous relationship between the data gathering and its analysis to enable full understanding and development of solutions. In addition to the grounded theory, the capability approach was used to be combined with an analytical framework which offered analytical and practical insights in terms of potential factors that would reinforce and inhibit the ability of Saudi women to convert the opportunity offered by e-learning (capability) into available educational achievement (functioning), as well as to achieve an interpretive basis for the study.

The collection of data is not without its problems, due to the closed nature of the Saudi society and the fact that the researcher is male. Ways to overcome this and gain access to women in higher education were by using male relatives of the respondents or female relatives of the researcher as go between or companion for the research. Semi-structured interviews were used on a small number of respondents aged 20 and above, in higher education, from a province in the North and one in the South where uptake of education by women is low. This is because of the social norms and religious beliefs there. In the next chapter, the analysis of data will be discussed.

## 7. Data Analysis

This study aims to demonstrate the ability of Saudi women (capability) to convert the opportunity offered by e-learning (resource) into achieving their higher educational goals (functioning) through the perspective of the capability approach, while drawing from the grounded theory. Based on that, capability approach and grounded theory techniques were used to analyse the data collected for this study. Thereby, the purpose of this chapter is to discuss the analytical framework, the method of selection of the dimensions and the analysis process of both capability approach and grounded theory. In addition, the role of the analysis process played by NVivo and the data analysis challenges are explained.

### 7.1. Analytical Framework

According to Alkire (2008), applying more than one analytical techniques is one of the important strengths of the capability approach, which should be selected based on its vital and related to the study context. Thereby in this study, the capability approach and grounded theory were employed as an analytical framework (technique). A combined framework offered analytical and practical insights in terms of potential factors that would reinforce and inhibit the ability of Saudi women (capability) to convert the opportunity offered by e-learning (resource) into valuable educational achievements (functionings), as well as to achieve an interpretive basis for the study (Bass et al., 2013).

A bottom-up analytical framework is offered by the capability approach, which implies that the consideration of the capabilities of individuals (being able to access and use e-

learning freely) is the starting point in order to fulfil their needs and wants (educational goal) (Bass et al., 2013). In addition, the capability approach presents concepts and important information that might help to conceptualise and assess the issue under study rather than explain it (Robeyns, 2006). Therefore, it provides particular indicators that might bring light on the ability of Saudi women to effectively convert e-learning opportunities to fulfil their educational goals (see figure 7-1).

In contrast, the grounded theory offers a bottom-up analytical framework in the early stage of its process (open coding step) as Urquhart (2001) states, *"the data speak to us and coding from the ground up"* (p. 121). However, it presents a top-down analytical framework in the majority of its process (axial and selective coding steps) as Urquhart (2001) stated, *"it is a top down method of coding"* (p. 121), which means that it moves from what is known as general to what is more specific (Heath & Cowley, 2004). In addition, the grounded theory primarily seeks to expand the explanation of an issue under study by identifying the key features and elements of that issue and then classifying the relationships of the identified elements to formulate a theory that explains the subject under study (Strauss and Corbin, 1990; 1998). Therefore, it can be used to explain the ability of Saudi women to convert e-learning opportunities to fulfil their educational needs by supporting the process of selecting and developing the valuable dimensions of the ability of Saudi women to access and use e-learning (see figure 7-1).

As the data collected was qualitative, the grounded theory was the appropriate method to carry out data analysis, combined with the capability approach. The



uniqueness of the grounded theory data collection and analysis process played a significant and integrative role in strengthening and combining the analytical framework with the capability approach in this study, as they are conducted concurrently and not necessarily done sequentially (Strauss & Corbin, 1990). It also offers supportive components that can assist in determining what factors influence the ability of Saudi women to convert e-learning opportunities and fulfilling their educational needs. With reference to Glaser and Strauss (1967), the grounded theory provides an effective baseline for comparative analysis. The grounded theory involves categorising and coding data according to their meaning and the coding used is open, axial and selective, all of which were used in this study as a process of analysing data (Strauss & Corbin, 1990; Mills et al., 2006).

During the analysis, the researcher searched for a core variable in the data from which the theory was generated (Strauss & Corbin, 1990). This core variable is one that recurs frequently in the collected data and also connects different data (Strauss & Corbin, 1990; Scott, 2004). The resultant theory therefore explained categories, how they relate to each other and their properties (Strauss & Corbin, 1990). Consequently, this process of analysing data could make the relationship between conversion factors and their dimensions stronger than by using the analysing process of the capability approach alone. Additionally, using the grounded theory was reinforced in this study through its process of data collection which was directed by the theoretical sampling technique, which itself enables the researcher to select the appropriate and next participants to discover as many dimensions and conditions related to the phenomenon of the study as possible and carry on collecting data until no more new

categories are found (saturation reached) (ibid). Therefore, the capability approach can be integrated to the grounded theory as a way of assessing Saudi women in light of their freedom (ability) to achieve their educational goal via e-learning.

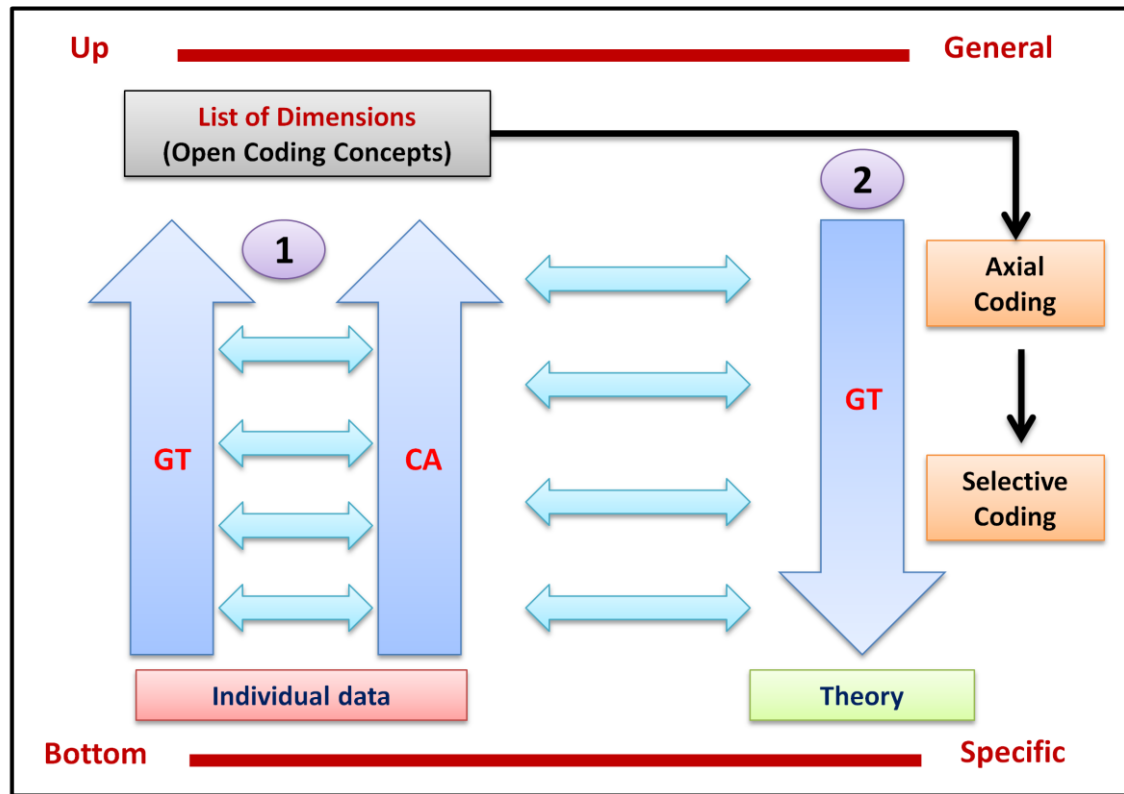


Figure 7-1: Analytical Framework Model

In this regard, complementary and overlapping roles were played by the capability approach and the grounded theory in order to determine and develop the important list of dimensions about the ability of Saudi women to convert e-learning into a valuable educational achievement. Through the analysis process of both the capability approach and the grounded theory, a systematic generation of underlying theories can be sought from the available data. The main goal is to elaborate on the formulation that establishes the factors influencing the rate at which Saudi women can convert the

e-learning process to improve their educational level. In this case, the capability approach was used to determine the dimensions of Saudi women's ability towards the effective conversion of e-learning opportunities to fulfil their educational goals as well as to give a conceptualisation of their ability to achieve. At the same time, the grounded theory was used to help the selection procedure of dimensions through the open coding analysis process. Since the dimensions list was created, the next step of the process was started, i.e. developing this list systematically through the axial and selective coding analysis process of the grounded theory under the perspective of the capability approach in order to identify the relationships between those dimensions and link them based on the conversion factors of the capability approach to find the core factor and develop a theory that would illustrate the ability of Saudi women to convert e-learning opportunities to fulfil their educational needs. It would also give more explanation about their ability to achieve and indications on the ways that can be used to enhance this ability which could lead to reinforcing the situation of Saudi women in their society (see figure 7-1).

Based on the above discussion and the analytical framework (see figure 7-1), the capability approach and the grounded theory would work together like semi-identical twins and feed each other as they were going through the identification of the dimensions that affect Saudi women's capability to take up e-learning. The diagram below shows the way this connection occurred (see figure 7-2).

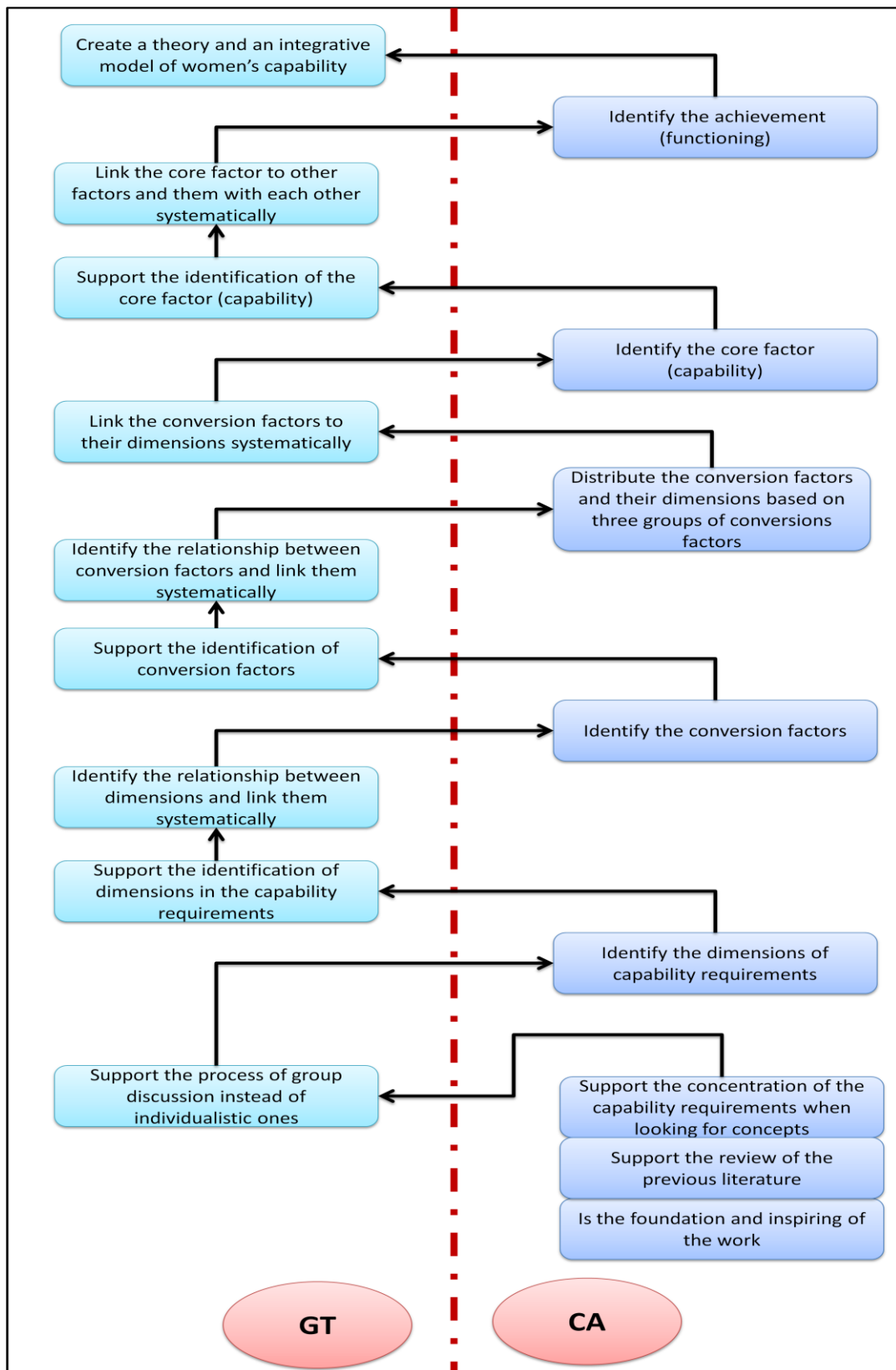


Figure 7-2: The Way that Capability Approach and Grounded Theory Feed Each Other

## 7.2. Selection Technique of Dimensions

The emphasis on identifying and prioritising the freedoms people value are one distinguished feature of the capability approach, so the main concern in the selection of dimensions should be to focus on things that people value and have reasons to value (Sen, 1999; Alkire, 2008). However, Sen does not explain which process should be used when selecting capabilities dimensions) and keeps things vague for the researchers (Nussbaum and Sen, 1993; Sen, 2004), as a result, the method of choosing dimensions has become a problematic issue for those who want to apply the capability approach. Therefore, several authors such as Alkire and Robeyns have responded to this shortage and made numerous contributions to the procedure by proposing some practical ways to choose the appropriate capabilities (dimensions) that could be followed (Alkire, 2002; 2008; Robeyns, 2003a). The procedure proposed by Robeyns (2003a, pp. 41-42; 2005, 205-6; 2006, p. 356) introduces four criteria (methods) to select the relevant dimensions, namely: *“explicit formulation, methodological justification, different levels of generality and exhaustion and non-reduction”*. She also states that the only goal for these criteria is to offer a kind of *“check and balance”* to avoid the bias that is introduced by the personal background of researchers as each one *“is situated in a personal context”* which thereby requires that special awareness to keep focusing on the study (Robeyns, 2003a, p. 42; 2006, p. 356). Alkire suggests to choose capabilities *“starting from John Finnis’ practical reasoning approach”*, which includes: *“life, knowledge, meaningful work and play, friendship, self-integration, authentic self-direction, transcendence”* (Alkire, 2002, p. 25), and she has used this list as a point of departure for the iterative participatory procedure. According to Alkire

(2008, pp. 7-8), many researchers have implicitly drawn their dimensions list using five selection techniques, either alone or in combination, including: *“existing data or convention, normative assumptions, public consensus, ongoing deliberative participatory and empirical evidence regarding people’s values”*.

In light of the above and the purpose of this study, Robeyns’ criteria and Alkire’s ongoing deliberative participatory technique of selection of the valuable dimensions of women’s ability to access and use e-learning freely are applied. From Alkire’s methods, the ongoing deliberative participatory process aims to generate a definite values and preferences list of the affected people through group discussions and participatory analysis (Alkire, 2002; 2008). This indicates that determining the affected people and meeting them to discuss the issue under study in a group are important steps in the ongoing deliberative participatory technique to create a valuable list from them directly. As this study seeks to draw out an important values and priorities list of Saudi women’s ability to access and use e-learning freely by themselves, ongoing deliberative participatory seems to be the ideal technique for this study because it enables it to meet such goal through its process, and it is utilised in this study with help from the grounded theory process of data collection and analysis using the following steps (Alkire, 2002; 2008):

- Draw out a list of dimensions directly from the participants (Saudi women), which clarifies the dimensions that matter to them and reflects their views towards their ability to access and use e-learning freely.

- Using the theoretical sampling process of the grounded theory and its ability to combine collecting and analysing data at the same time can be implicitly considered as using group discussion and participatory analysis. This technique also ensures that value judgments are made and revised directly by the participants themselves.

In the meantime, Robeyns' criteria of selection of the valuable dimensions are applied with help from the grounded theory process of data collection and analysis by using the following steps (Robeyns, 2003a; 2006):

1. Explicit formulation: writing all of the participants' answers and making it clear from where these dimensions are obtained by giving a quotation for each dimension, from all of the participants' answers. This exercise makes the reader aware of the reasons why certain dimensions matter.
2. Methodological justification: using the semi-structured interview as it is an open-ended and flexible method, and is the opening process to critique and modification. It also gives participants the ability to tell their story in their own words to discuss and defend the valuable list of dimensions, so this list comes from the participants themselves with a little explanation or help from the interviewer when needed.
3. Different levels of generality: utilising the capability approach with the support of the grounded theory would enhance and strengthen the selection of a valuable list of dimensions and increase its generality. This exercise indicates that the drawing list is comprehensive and representative of the participants.

4. Exhaustion and non-reduction: applying a theoretical sampling technique of the grounded theory as well as analysing and collecting data at the same time until saturation has been reached would ensure that no important dimensions have been left out.

In order to strengthen the process of choosing the valuable dimensions (capabilities), the analysis technique of the grounded theory (open, axial and selective coding) is also used in this study alongside the above techniques (Alkire and Robeyns) to play a supportive and complementary role in the process of selecting dimensions (capabilities). According to Punch (2005), coding (open, axial and selective) is the heart of grounded theory analysis and these codes play different roles in the grounded theory analysis procedure which is as follows: open coding discovers the substantive codes, axial coding employs theoretical codes to link the key substantive codes and selective coding segregates, concludes and formulates the core category. In order to facilitate the coding process and give accuracy and specificity to the grounded theory concepts, the process of open, axial and selective coding should follow two basic analytic techniques namely asking questions to generate ideas or ways of looking at the data, and making comparisons to identify categories and their development (Strauss and Corbin, 1990; 1998), which are used in this study through the nature change of each type of coding. In this study the Straussian approach (open, axial and selective coding) was used instead of the Glaserian approach (open, selective and theoretical coding), as it is more structured (Onions, 2006; Pickard, 2007) and offers a clearer strategy for the data analysis process of a beginner researcher than the Glaserian method (Heath and Cowley, 2004; Kelle, 2007). This view is in line with



Urquhart (2001), as she stated that the Straussian approach might be attractive to novice researchers as it presents a good signpost for them. She emphasised her view by saying that *"I have Strauss and Corbin (1990) to thank for making grounded theory accessible to a novice."* (Urquhart, 2001 p. 111). In addition, the Straussian version allows the researcher to review the previous literature that is related to the phenomenon under study (Strauss and Corbin, 1990), which would be a benefit for the researcher to increase his knowledge around the research area as it is a new area for him.

As coding *"the process of analysing data"* is a fundamental procedure to develop a theory (Strauss and Corbin, 1990, p. 61; Strauss, 1987), a useful guideline called *"rules of thumbs"* has been suggested by Strauss (1987, p. 30 and 81), to be followed in the coding process of the grounded theory which was applied in this study, in order to code data accurately and successfully, as well as to make sure the analysis process moves from open coding through axial into selective coding accurately. This guideline includes:

- looking for valuable codes or terms used by those people, which are being studied.
- giving a provisional name to each code.
- asking many specific questions about words, phrases, sentences, actions in line-by-line analysis.
- moving quickly to dimensions that appear important to given words, phrases, etc.

- the fact that these dimensions should quickly call up comparative cases; if not, then there is a need to concentrate on finding them.
- discovering real categories and naming them provisionally.
- relating those categories as specifically and variably as possible using the coding '*paradigm model*' including: "*causal conditions, phenomenon, context, intervening conditions, action/interaction strategies and consequences*" (Strauss and Corbin, 1990, p. 99).
- relating categories to subcategories in order to build a systematically dense analysis.
- the fact that once the core category is identified, it should relate to all categories and subcategories as well as them to each other.

The author also states that there are additional guidelines for the coding process that would be useful to apply and which were employed in this study, in order to ensure its proper use and success. They are as follows (Strauss, 1987, pp. 30-32):

- Ask how, what and why questions about the data to understand what is the main story behind the data.
- Analyse the data accurately to achieve an extensive theoretical coverage.
- Write a theoretical memo (code notes that discuss the codes) in order to move the analysis further from the data into a more analytic scope.

The next section will explicitly show the coherence between the grounded theory and capability approach techniques, how they complement each other in selecting the

valuable dimensions of the ability of Saudi women to access and use e-learning freely, as well as explain the way this study applied all of those techniques.

### **7.3. Data Analysis Procedure**

Based on the analytical framework of this study, the procedure of data analysis was built on applying two methods which are capability approach and grounded theory, as they played complementary roles (see figure 7-1). The NVivo 10 software support, which used three types of the grounded theory procedures (open, axial and selective coding), was originally designed by Glaser and Strauss (1967) with further modifications by Strauss (1987) then Strauss and Corbin (1990; 1998). Thereby, two stages of the analysis process were followed and will be discussed below (see figure 7-3).

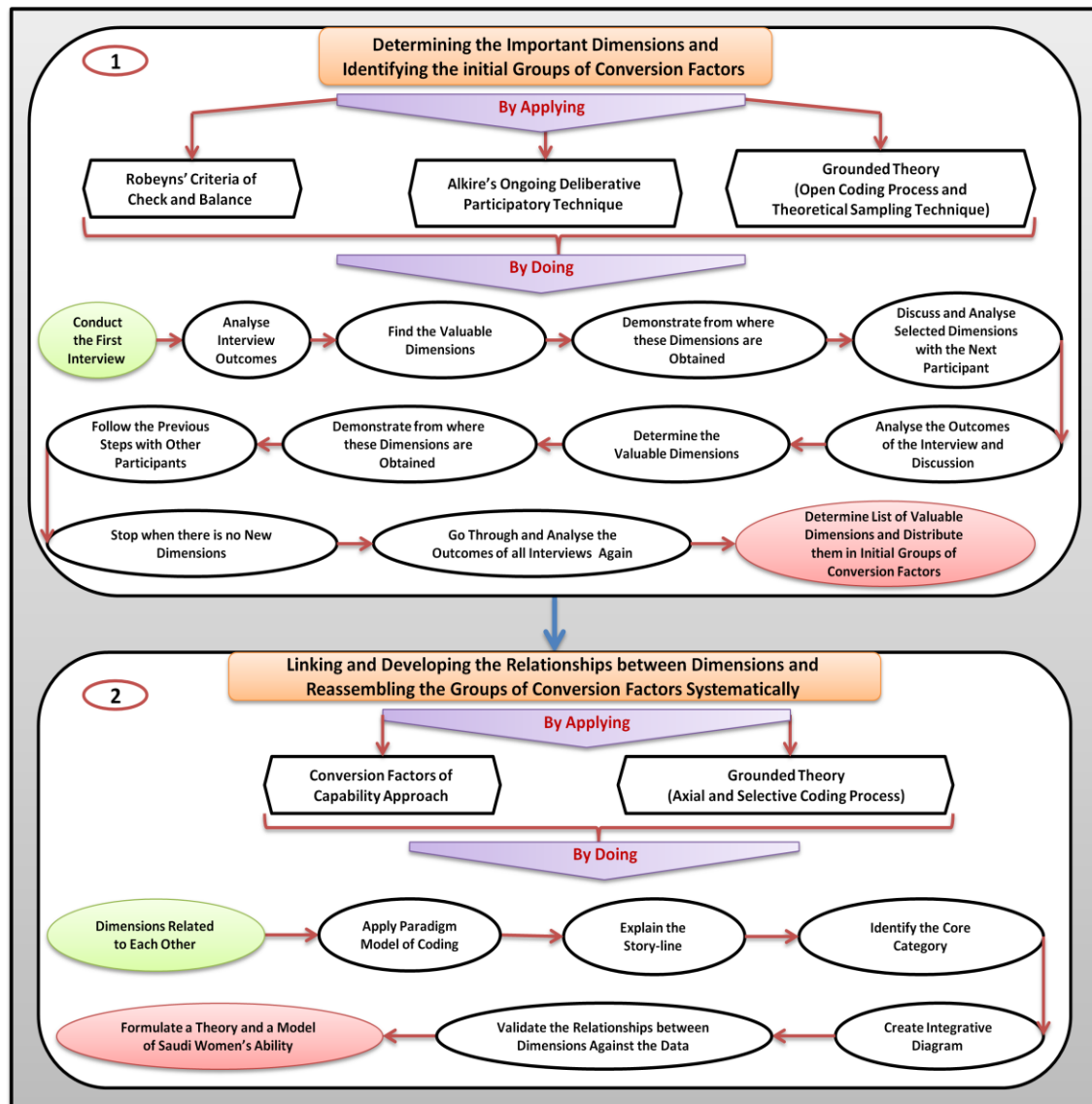


Figure 7-3: The Outlines of Data Analysis Procedure

### 7.3.1. First Stage

At this stage, three analysis techniques were applied to determine the important dimensions and the initial categories/groups of conversion factors that would play different roles towards the ability of Saudi women to convert the opportunity offered by e-learning into achieving their higher educational goals. These techniques are Robeyns' criteria of check and balance, Alkire's ongoing deliberative participatory technique as well as the open coding process and theoretical sampling technique of

the grounded theory analysis procedure. A complementary and supportive role was played by these three techniques in order to achieve this stage's aim. The analysis procedure was started from the early stage with the grounded theory's support through the practice of data collection in order to draw out a list of dimensions directly from the participants themselves (Saudi women). This list was created based on Alkire's technique of selection of dimensions under Robeyns' criteria with the grounded theory's support by using the following process (see figure 7-3):

An individual interview was organised with each participant using the semi-structured interview method to determine the dimensions that would impact the ability of Saudi women to convert the opportunity offered by e-learning into achieving their higher educational goals. After each interview, the participants's answers were analysed directly by the researcher to find those dimensions, which are valuable for the subject under study, and related them to the data they are obtained from. This process is reflected on the next interview procedure. These dimensions created from each participant were discussed and analysed with the next participant. This was done based on the theoretical sampling process of the grounded theory which emphasises that data collection and analysis should be conducted at the same time and continues until theoretical saturation of the categories is reached. This method has made the analysis process occur in a group discussion even if it did not happen in reality. At the same time, similar dimensions were primarily classified together in one group with the open coding process help and it will be developed in the next stage of analysis. The previous process continued until there was no new capabilities found. After that, the researcher went through each interview more accurately to make a full analysis of

each one but dealt with all of these interviews as a whole document in order to create a final valuable dimensions list that gets a sense of the Saudi women's ability to access and use e-learning freely.

Through the above process, the grounded theory played a supporter and overlapping role with the other techniques (Alkire and Robeyns) in the way of determining a list of the valuable dimensions and distributing them in initial categories/groups of conversion factors based on their similarity of properties. This role was represented in the first phase of data analysis which is the open coding stage. The process of this coding entails answering the questions of how, why and where from the initial concepts (dimensions) and categories/groups of conversion factors are developed and also breaking down data into units/categories meaningful to the study (Strauss and Corbin, 1990). Thus, the aim of the open coding *"is to produce concepts that seem to fit the data"* (Strauss, 1987, p. 28), and describe *"what is happening in the data"* (Glaser, 1978, p. 52). This phase intends to conceptualise and categorise data in individual units. These concepts and categories are general in nature and cover a wide area (Strauss and Corbin, 1990). Open coding stimulates the discovery not only of concepts but also the properties and dimensions of data. This gives the general categories of data (ibid). The roles that open coding played at this stage by applying the three steps of analysing data are as follows (Strauss and Corbin, 1990, pp. 63-72):

1. *"Labelling Phenomena"*: by breaking down and conceptualising data through looking to words, phrases, sentences, actions in line-by-line analysis to produce concepts (dimensions), incidents, events or key ideas (phenomena) that are meaningful to the study and then giving each one a name that represents a

phenomenon. This process was done by identifying the part of data that needed analysing, asking questions about the identified data (e.g. What is interesting in this text? and Why is it interesting?) in order to find the main concept (dimension) in this text and then giving it a name. For example, to illustrate the above process, here is a quotation from one participant's answer: *"My ability to take advantage of e-learning is under my father's agreement."* (Female (F) 5). The first step was determining the potential data that would represent a concept (dimension) by underlining it, then opening up the data by asking some questions such as What does this data represent? and What does this mean? In the end, this code was interpreted to get a dimension called '*male authority*'. The same process was done with another instance of one participant's answer: *"I am not able to use the internet and computer in a private room in order to be monitored."* (F2). By underlining the potential data that would represent a concept (dimension), then asking questions about this data such as What does this data explain? and What is the main idea here?, in the end, the first data underlined was interpreted to be coded under the '*using environment*' name, while another section of underlined data was interpreted to be coded under the '*family monitoring*' dimension. As the analysis goes along, concepts were compared with other concepts to avoid any similarity between concepts' names. For instance, a similarity was found between the '*mixing gender*' and '*gender contact*' concepts (dimensions) and as a result, a combination was made by giving them one name which was '*rules of behaviour*'.

2. *"Discovering and Naming Categories"*: by producing an initial grouping (categorising) of concepts that seemed to relate to the same phenomena in one group/category of conversion factor which should be explicit enough but still an abstract concept. This process was done by taking each concept individually and asking questions about it to know the phenomena that seem to be relevant to it, then by giving each group a name that seems related to the data it represents. These names came from the researcher or participants own words 'in vivo code' and from literature. For example, 'period of use', 'environment of use' and 'family monitoring' share the same incident as a result, they were put under the group 'use of the internet'. After this process was finished and numerous categories were identified, the next step began, which was developing categories based on their properties and dimensions.
3. *"Developing Categories in Terms of Their Properties and Dimensions"*: by discovering the nature of properties (the characteristics of a category), their dimensions (the location of properties along a continuum) and their relationships. This process was done by identifying the specific properties and dimensions of each category to develop and inform the relationships between categories and subcategories. For example, 'male authority', 'women's exclusion', 'family honour', 'rules of women's behaviour' and 'women's movement' share similar properties and dimensions so as a result they should be put under one group which is 'social factors' (see table 7-1).



As it is important to demonstrate from where these dimensions (concepts) are obtained, below are some excerpts taken from participants' answers to show that all dimensions were obtained directly from the participants themselves:

- Cost reduction:

*"By reducing the internet and computer cost, my chance of completing my higher studies via e-learning will be increased." (F5)*

*"Offering a special price for the e-learning required materials (e.g. internet, computer and fees) will enhance my continued use of e-learning in my study." (F14)*

- Device availability:

*"The old model of my computer made my studies slower than usual." (F13)*

*"The fear of not having a modern computer will prevent me from using technology in my studies." (F21)*

- Distrust of women:

*"I need my husband to increase his trust in me as it will lead an enhancement of my space of freedom when I use technology." (F8)*

*"The lack of trust that I face from my husband will prevent me from using e-learning in my studies." (F15)*

- Diversity of disciplines:

*"Offering different subjects via e-learning will enhance my chances to use it for my higher studies." (F9)*

*"The subject that I am now studying is not my favourite one, as my dream subject is not available via e-learning." (F13)*

- Environment of use:

*"It is inconvenient for me to use e-learning in a specific environment (e.g. in the same room as my family) as it would affect my concentration on my studies."*

*(F6)*

*"The limitation on the places that I have to use e-learning in will prevent me from continuing to use e-learning in my studies." (F16)*

- Family honour:

*"My fear for my family honour makes it difficult for me to communicate with male students... I do not do anything that might affect our family's reputation negatively when using technology." (F12)*

*"As I live in a tribal society that links family's reputation to women's behaviour, I have to be careful when I use e-learning in my studies and have to avoid anything that might affect my family's honour such as contact with a male student or lecturer." (F15)*

- Family monitoring:

*"Studying under the supervision of others is very hard." (F13)*

*"The lack of freedom will make me a bit uncomfortable so it will be hard for me to work under monitoring." (F20)*

- Female lecturer:

*"Creating courses with female lecturers to provide an appropriate female environment." (F3)*

*"Providing female lecturers in all courses will facilitate women's education via e-learning." (F10)*

*"The lack of female lecturers will prevent me from using e-learning in my studies as I am not allowed to contact men." (F13)*

- Financial ability:

*"The financial condition of my family will affect my use of e-learning in my studies negatively (e.g. I will not be able to pay the fees as it is more than I can afford)." (F10)*

*"I usually use e-learning carefully by focusing on my spending at the time of use because of the financial means of my family as they will prevent me from continuing to use e-learning in my studies." (F15)*

- Free study:

*"I will absolutely finish my higher studies via e-learning, if it is free as the traditional method of learning." (F3)*

*"I believe that paying fees to study is not acceptable here in our country as education is free, so e-learning should be free as the traditional way of learning is." (F21)*

- Health status of women:

*"I cannot spend much time on the internet and the computer because of my vision problem." (F22)*

*"Technology will offer me an excellent opportunity to complete my higher studies without fear because of my speech problem." (F23)*

- Hierarchy of power:

*"When my father passed away my brother became responsible for our family and he decided that I have to stop my studies when I got the diploma." (F8)*

*"Our culture sees us (women) as lower than men, so they become responsible for us in every aspect of our life and transfer their responsibility between each other (e.g. from fathers to sons or husbands)." (F13)*

- Implementation of religious courses:

*"I think doing some seminars and lectures from time to time on women rights by the religious authority would help us to reinforce our situation inside society as they have got a strong power in our society." (F2)*

*"I believe that the change in our situation will only happen with the help of the religious men who are greatly respected in our society, so whatever they say about women will have a great impact on men's decisions towards women in our society." (F6)*

- Internet availability:

*"The ability of my husband to provide an internet service until I finish my studies will prevent me from continuing to use e-learning in my studies." (F16)*

*"Internet subscription fees will prevent me from using e-learning in my studies." (F20)*

- Internet connection services:

*"The speed of the internet will affect my decision to use e-learning to complete my higher studies." (F5)*

*"Internet coverage will prevent me from continuing to use e-learning in my studies." (F12)*

- Legislations:

*"Regulations play a significant role in our status inside society, so we need explicit laws aiming to reinforce our status." (F6)*

*"I am not sure if e-learning is adopted or not when I want to apply for a job in the government sectors." (F9-21)*

- Male authority:

*"My father's disagreement will prevent me from using e-learning in my studies." (F4)*

*"With my father's agreement I will use e-learning to complete my studies." (F5)*

*"My ability to take advantage of the technology to achieve my educational goal is subject to my husband's approval." (F17)*

- Male awareness:

*"I only want my brother to understand my rights as a human." (F8)*

*"We need our men to be aware of our rights as humans." (F11)*

- Male beliefs:

*"My husband is as any eastern man who does not accept his wife making any type of communication with strange men." (F1)*

*"My father thought that the internet offers information against social norms." (F12)*

- Male education level:

*"I am a lucky woman as I have got a husband who educated himself well, got master degree and he loves for his wife to be educated and get higher education." (F10)*

*"I think the low level of my father's education affects his view about our education, so he only allows us to finish high school." (F17)*

- Male support:

*"The fear that my husband changes his mind on supporting me will prevent me from using e-learning in my studies." (F1)*

*"My husband's encouragement and support will enhance my continued use of e-learning in my studies." (F13)*

- Monthly rewards:

*"My sister's support gives me a chance to continue my studies via e-learning because she helps my father by giving him the monthly rewards that she usually gets from her university." (F14)*

*"To get an amount of money each month will encourage me to use e-learning as my family really need it to help us in our life." (F19)*

- Online exam:

*"I think universities should offer e-learning exams via the internet to facilitate our studies." (F13)*

*"I want to complete my studies via e-learning but my friend told me that not all of e-learning will be via the internet as I have to do the exam at the centre and such thing is a big problem for me based on my family situation." (F22)*

- Online syllabus:

*"Offering e-learning's curriculum via the internet will help me to continue my studies." (F14)*

*"I thought that when I would study via e-learning I would get anything related to my studies via the internet but I was wrong as I usually received the materials by normal postal not online." (F16)*

- Period of use:

*"I was not able to use e-learning whenever I wanted which will affect my continuing with it." (F12)*

*"The lack of time of use was effecting my concentrating, which impacted on my grades in general." (F15)*

- Priority of women's responsibilities:

*"I have to do my domestic duties without reducing them because it has priority." (F11)*

*"I tried very hard to respond to all of my husband's requirements without complaining first and did my studying homework second." (F15)*

*"The inability to combine my studies and my responsibilities towards my family will prevent me from using e-learning in my studies." (F20)*

- Recognition of certificate:

*"The clear adoption of this certificate method will encourage me to use e-learning in my higher studies." (F4)*

*"I always hear that an e-learning certificate will not help me to get a job, which means I am seriously thinking to stop my studies unless I hear something different from the authority." (F15)*

- Rules of women's behaviour:

*"I have to accept whatever comes from my husband." (F2)*

*"Do not make any communication with a male lecturer." (F12)*

*"Avoiding contact with men will increase my chances to finish my studies." (F20)*

- Subject of study:

*"The subject of education is a suitable subject to study as it is acceptable in our conservative society, so choosing such a subject will enhance my chances to complete my higher studies via e-learning." (F2)*

*"Choosing a subject to study is not my decision entirely but it is my male guardian's decision." (F7)*

- Technology skills:

*"I do not have the basic skills to use a computer and the internet." (F1)*

*"My lack of knowledge of the technology will prevent me from using e-learning in my studies." (F7)*

*"My ability to use technology (computer and internet) will enhance my success." (F18)*

- Training courses:

*"I cannot use e-learning without help so I need first to train myself before beginning to use it." (F5)*

*"I think creating free training courses to educate women about how they can use e-learning would be helpful as I had some problems when I used it for a first time and it took me a while until I became familiar with it." (F15)*

- Tuition fees:

*"Tuition fees are very high for me." (F3)*



*"My husband's ability to pay the tuition fees will prevent me from using technology in my studies." (F19)*

- Women's exclusion:

*"I live under the responsibility of men who give me whatever they want without sharing with me." (F15)*

*"My husband cancels my existence completely as he does not listen to my opinion about anything even if it is for our family's life or for something related to my personal life." (F17)*

*"The priority in our conservative society is men over women." (F22)*

- Women's movement:

*"Because of my situation as a divorced woman, in our society, my movements are limited as they are under my male guardian's control even if I want to do something that is very important for me, such as study." (F5)*

*"I live in a conservative society which restricts my movements, so I have to be accompanied by one of my men's relative when I want to move outside my home even if it is to study." (F13)*

The above process was continued until all of the data had been analysed and the potential concepts (dimensions) and initial categories/groups of conversion factors had been identified. Based on the process that was followed in this stage, thirty-four valuable dimensions were identified for Saudi women that would influence their ability to access and use e-learning freely. These were divided between the six initial

categories/groups of conversion factors that would distribute capabilities between them based on the similarities of properties that were identified (see table 7-1).

Concepts (Dimensions)	Conversion Factors
Family honour	Social factors
Hierarchy of power	
Male authority	
Male beliefs	
Male awareness	
Distrust of women	
Rules of women behaviour	
Women's exclusion	
Women's movement	
Device availability	Family desire
Financial ability	
Internet availability	
Male education level	
Male support	
Subject of study	E-learning infrastructures
Diversity of disciplines	
Female lecturer	
Internet connection services	
Online exam	
Online syllabus	
Tuition fees	Government assistance
Cost reduction	
Free study	
Implementation of religious courses	
Legislations	
Monthly rewards	
Recognition of certificate	
Training courses	
Health status of women	Personal factors
Technology skills	
Priority of women's responsibilities	
Environment of use	Use of the Internet
Period of use	
Family monitoring	

Table 7-1: List of dimensions and initial categories/groups of conversion factors

### 7.3.2. Second Stage

According to Sen (1992, p. 1) and Robeyns (2005, p. 99) the types and degrees of capabilities a person could be produced from resources are affected by three groups of “conversion factors” namely: “personal, social and environmental”. Thereby, at this

stage of the analysis process, the grounded theory coding (axial and selective coding) analysis process was used with Sen's conversion factors to link and develop the relationships between dimensions and reassemble the conversion factors systematically, in order to draw out a model and a theory that would demonstrate the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement (see figure 6-1). This will be discussed below:

At this stage, the analysis process started with axial coding as it is the second main stage of the grounded theory process of data analysis, that it follows open coding and the essential aspect of it. In the open coding stage, the codes formed are general and unfocussed. Therefore, axial coding subjects these general open codes to a systematic analysis and continuous comparison in order to bring out a relationship among categories/groups of conversion factors and subcategories (dimensions) by utilising an intensive analysis "around one category at a time in terms of the paradigm items" '*paradigm model*' (Strauss, 1987, p. 32; Strauss and Corbin, 1990). In this model, subcategories (dimensions) are linked to a category/group of conversion factor in a set of relationships denoting (see figure 7-4):

- (A) *Causal conditions*: the incidents or events that lead to the incidence or expansion of the phenomenon.
- (B) *Phenomenon*: the central idea or event, or the name of the notion that holds similar meanings together.
- (C) *Context*: the specific properties of a phenomenon and also to a series of particular conditions that affect the action/interaction strategies.

- (D) *Intervening conditions*: it can influence the action/interaction strategies taken in a particular context by facilitating or constraining it.
- (E) *Action/interaction strategies*: the ways in which the phenomenon is managed, handled, carried out and responded to, in a certain context and under specific conditions.
- (F) *Consequences*: the outcome (Strauss and Corbin, 1990, pp. 99-106).

By using the paradigm model process to create coding, it gives these codes the chance to be coded sufficiently as Strauss (1987, p. 28) explains by saying “*without inclusion of the paradigm items, coding is not coding*”. At this stage, concepts are created to give a theoretical explanation of the objective under study (Strauss and Corbin, 1990; 1998). In other words, axial coding is a technique to encourage conceptual and theoretical development as well as a process of restructuring data that were broken through open coding using the coding paradigm model (ibid). Strauss and Corbin (1990) believe that the purpose of axial coding is to assemble data that was fractured during open coding as well as to develop a basis for selective coding.

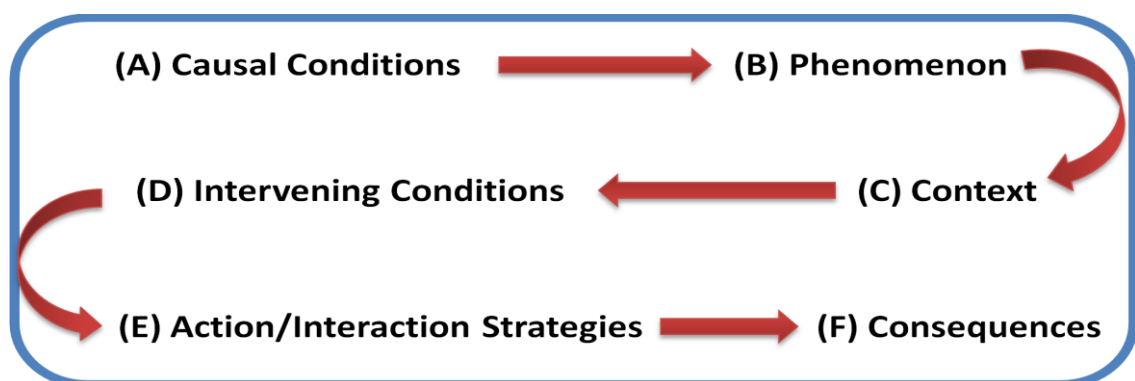


Figure 7-4: The Paradigm Model (Source: Strauss and Corbin, 1990, p. 99)

According to Strauss (1987, p. 64), in order to build a thick texture of relationships between categories/groups of conversion factors and their subcategories (dimensions) as well as to meet the related steps of the analysis process of axial coding from the above guidelines of coding process from the grounded theory, four basic steps, which were applied in this study, should be followed when applying the axial coding process.

These include the following:

- Laying out the properties and dimensions of the category (This begins through open coding.).
- Identifying the variety of conditions, interactions, strategies and consequences associated with a phenomenon (the coding paradigm).
- Relating a category through statements showing how they are related to each other.
- Looking for data that indicate how major categories might relate to each other.

In light of the above, the paradigm model was utilised as new way of putting data back together after open coding, in order to move the analysis process of the phenomenon from description to theoretical explanation by making a comparison between codes and linking categories (groups) and their subcategories (dimensions) in line of their properties and dimensions (Strauss, 1987; Strauss and Corbin, 1990).

Below is an example to illustrate the process used to relate a category/group of conversion factor called cultural use of the internet with other subcategories (dimensions) namely: male authority, period of use, environment of use, family monitoring, priority of women's responsibilities, distrust of women, legislations,

female lecturer and male support via paradigm model elements (causal conditions, phenomenon, context, intervening conditions, action/interaction strategies and consequences). It is as follows:

- **Phenomenon** is: cultural use of the internet. This phenomenon (category or group of conversion factor) was identified when some participants said:

*"The lack of freedom will be a bit inconvenient when using the internet." (F7)*

*"I found it difficult to use the internet with the limitation of freedom that I have got." (F13)*

- **Causal Condition is:** male authority. The impact of male authority on cultural use of the internet can be realised through the answer of one participant who said:

*"I have to let my husband know when I want to use the technology so he can give me his agreement or not." (F19)*

- **Contexts are:** period of use, family monitoring, environment of use and rules of women's behaviour. They can be identified as specific properties of the culture of using the internet phenomenon as illustrated by the following passages from some participants:

*"My husband bans me from using the computer and the internet late at night." (F1)*

*"I use technology under the supervision from my husband." (F2)*

*"I use the internet and the computer in an open space at home will be one of my husband's rules for using e-learning." (F9)*

*"I do not make any contact with men lecturer without my father knowing and his agreement." (F14)*

- **Intervening Conditions are:** distrust of women and priority of women's responsibilities. Other variables were identified that would influence the phenomenon as illustrated by the following quotations from some participants:

*"I will not use e-learning without my husband being present in order for him to observe me because of the lack of trust in women." (F1)*

*"The priority is my family over my studies." (F17)*

*"The presence of my family near me will restrict my freedom to study." (F9)*

- **Actions Strategies are:** legislations, female lecturer and male support. These actions were stated by some participants who saw them as strategies that should be used by men and the government in order to help women to access and use the internet more freely. They identified these actions when they said:

*"Issue some regulations to reduce male authority towards women education in particular." (F6)*

*"Providing female lecturers will remove the possibility of contacting men." (F4)*

*"My husband creating the right atmosphere to study." (F16)*

- **Consequence is:** empowerment to access and use the internet freely. This is the result that participants were looking for to improve their achievement, as some participants said:

*"Having enough freedom when using the computer and the internet will enhance my concentration and success." (F1-7)*

The above process was continued with all of those concepts (dimensions) and the categories/groups of conversion factors that were found in order to bring out all of the relationships between categories (conversion factors) and subcategories (dimensions).

As a result, four categories/groups of conversion factors were found, namely: tribal society culture, cultural use of the internet, family willingness and government stimulation factors, which are equivalent to the three groups of conversions factors that are stated by Sen, namely: personal, social and environmental factors. Each one of them include a number of dimensions from the thirty-four dimensions that were found. However, due to the different roles that each dimension played with each factor of conversion, based on the paradigm process model, there will be a repetition of these dimensions with a different role in each conversion factor. For example, the dimension of male authority was considered to be a causal condition to the cultural use of the internet factor whereas it was considered to be a context (specific propriety) for the tribal society culture factor, but at the same time, it was considered to be an intervening condition for the family willingness factor. Therefore, to avoid any misunderstandings and provide more clarification, the researcher found beneficial to present the distribution of dimensions, without any repetition, between the final conversion factors (see figure 7-5).



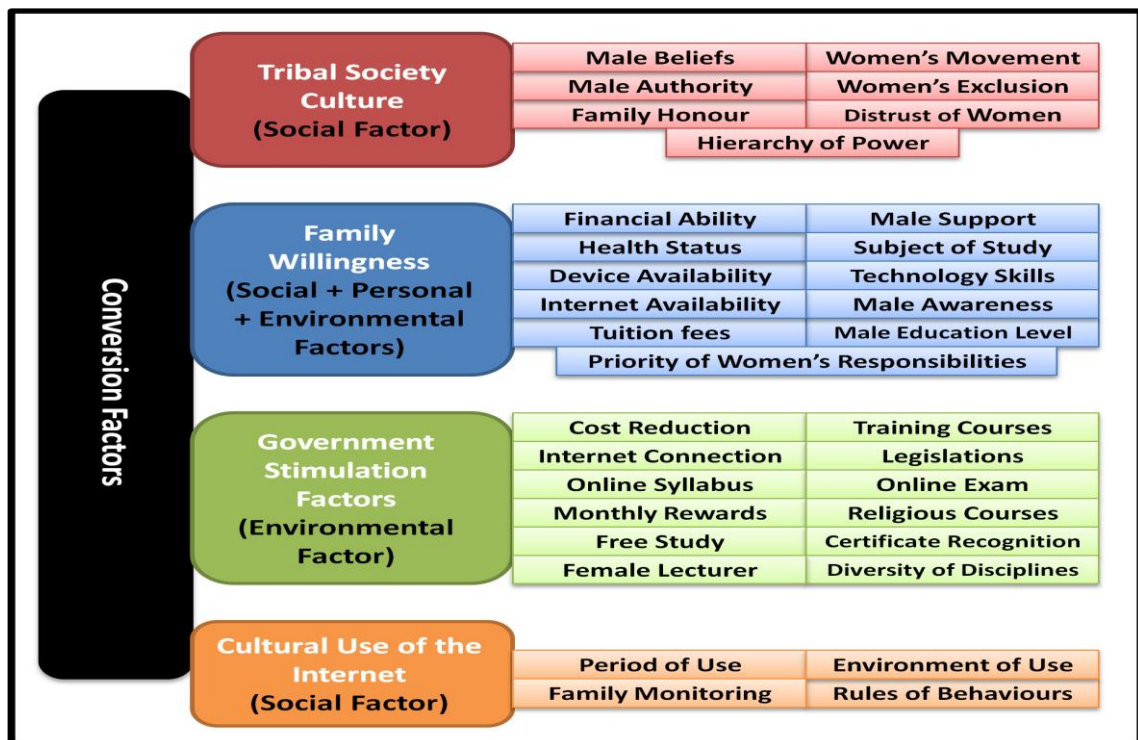


Figure 7-5: Dimensions' distribution between categories/groups of conversion factors

After the process of axial coding finished, the next step at this stage started, i.e. selective coding which represents the final stage of data analysis in the grounded theory and which systematically relates all the other categories to the core category, thus forming the basis of the grounded theory (Strauss and Corbin, 1990). The categories are integrated and developed into a theory using the relationships between them (ibid). Once the categories have been related, a wide range of propositions and conditions can be formulated to give the theory specificity (ibid). Therefore, selective coding is about "the process of selecting the core category" and "*the process of integrating and refining the theory*" (Strauss and Corbin, 1990, p. 116; 1998, p. 143).

The core category is "*the central phenomenon around which all other categories are integrated*" (Strauss and Corbin, 1990, p. 116). In this regard, the first step in

integration is choosing the core (central) category (Strauss and Corbin, 1998). In order to decide which category can be identified as the core category, Strauss (1987, p. 36) has proposed a number of criteria that might be applied and which were taken into account in this study. These are that:

- It must be central so all other categories can relate to it.
- It must appear frequently in the data.
- It must relate easily (no forcing) to other categories.
- Its name should be sufficiently abstract.
- As it is developed analytically, the theory grows in depth and explanatory power.
- It allows for explaining the variation to the analysis.

According to Strauss and Corbin (1990; 1998), there are several steps that can be used through the process of selective coding to facilitate the identification of the core category and the integration of concepts. These are as follows:

- Explicating the storyline to identify the core category.
- Relating subcategories around the core category systematically in terms of the coding paradigm.
- Relating categories at the dimensional level.
- Validating those relationships against the data.
- Filling the poorly developed categories.

However, Strauss and Corbin (1990, p. 118) stated that, *“these steps are not necessarily taken in linear sequence nor are they distinct in actual practice. It is only for*

*explanatory purposes that we distinguish between them*". Based on the above discussion, the analysis process of selective coding applied the following appropriate steps to identify the core category and achieve integration in this study:

### **1. Explicating the storyline**

According to Strauss and Corbin (1990; 1998), formulating a storyline is the first step in the analysis process of selective coding. It is sometimes difficult to do as everything in the data seems important but the storyline can be formulated by applying procedures, which consist of the following steps:

- Identifying the story: it is the process of giving a general descriptive overview of the study without too much detail as it might confuse the issue at this stage. To do so, asking questions would be helpful to write a few descriptive sentences about *"what seems to be going here"* such as *"What is the main problem? What about this area of study seems most striking?"* (Strauss and Corbin, 1990, p. 119; 1998, p. 148). This story is a descriptive story, which is as follows:

The main story seems to be about those women who live in the dual society 'conservative and tribal' in the 'Northern and Southern' parts in the Kingdom of Saudi Arabia and who want to complete their higher education via e-learning as they have finished their high school studies. However, their ability to convert the opportunity offered by e-learning to achieve their educational goal is varied from one to another as it is affected by *"personal, social and environmental"* factors.

- Writing the storyline (identifying the core category): it is the process of describing the story analytically (the conceptualisation of the story). In other words, it is about moving from a description to a conceptualisation way of

telling the story. To do so, the central idea/phenomenon (core category) has to be given a name and other concepts have to be related to it by identifying one of the existing categories to be the core category if it appears abstract enough to cover the core idea that is described in the story. However, if it is not sufficiently broad to be the core category, new categories should be determined and given a new name when each of the existing categories seem to explain a part of the phenomenon, not the whole of it (Strauss and Corbin, 1990; 1998). Therefore, in this study, the core category was not one of the identified categories as each one just explained a part of the phenomenon instead the whole thing. So, a new core category was identified which is the ability of Saudi women to access and use e-learning freely. The storyline is as follows:

Offering women an opportunity to complete their higher education via e-learning is not enough without giving them the power to access and use it freely whenever they are able and want to do so. Thus, the main story here seems to be about the ability of those women who live in a conservative and tribal society to access and use e-learning freely. The majority of the women who were interviewed faced some difficulties with getting full access and using e-learning because of having a limitation of their *period of use and environment of use* of e-learning as well as their *family monitoring*. The conditions leading to their limitation in ability of accessing and using e-learning freely fall under three groups of factors namely: *tribal society culture, cultural use of the internet and family willingness*. *Males' beliefs* towards women played an important

role in reducing women's ability to access and use e-learning as they used *their authority* over women. These factors impacted on women's ability by reinforcing other factors' influences on women's ability namely: *family honour, women's movement, women's exclusion, distrust of women, rules of women's behaviour and hierarchy of power*. In addition, some personal and family factors would also affect women's ability such as *health status of women, priority of women's responsibilities, technology skills and financial ability of family* by reducing women's ability to access and use e-learning. Other factors can influence women's ability such as *subject of study, tuition fees, internet and device availability*. In spite of the existence of these obstacles, there are some actions that could help women and facilitate their ability to access and use e-learning freely. There is a need for government to make the following changes as *stimulation factors*, such as *cost reduction of some relating services, monthly rewards, free study, online exam, online syllabus, diversity of disciplines, female lecturer, training courses, internet connection services, certificate recognition, implementation of religious courses and legislations*. Another action would be linked to *male support*. However, *male awareness* and *male education level* have an impact on some of those factors by being reduced which will lead to an increase in women's ability. Therefore, when those factors affecting women's ability to access and use e-learning freely are reduced, women's empowerment to achieve their educational goal with a sense of freedom will be increased, as well as the feeling that they are an important presence in society will be enhanced.

## **2. Relating other categories to the core category**

According to Strauss and Corbin (1990), following the explicating of the storyline, the next step of the analysis process of selective coding is relating other categories (groups) to the core category via the coding paradigm “*causal conditions, phenomenon, context, intervening conditions, action/interaction strategies and consequences*” (p. 99). At this stage, the storyline was used as a guideline to organise and reorganise the categories by means of the paradigm until they appeared to fit the story as well as to offer an analytic version of the story (ibid). In the end, according to Strauss (1987) as well as Strauss and Corbin (1990; 1998), using an integrative diagram in the final step of the selective coding analysis process should be encouraged as it is very useful to show the density and complexity of the theory, the conceptual integration (conceptual linkages) and it provides a visible classification of the relationships between the categories and the core category. In this regard, an integrative diagram was used alongside the storyline as another technique to aid the integration of concepts in this study (ibid). This diagram was made based on the theoretical perspective of the capability approach while drawing from the grounded theory in order to present an integrated model of the dimensions that characterise the capability requirements that apply to women in Saudi Arabia using e-learning (see figure 7-6).

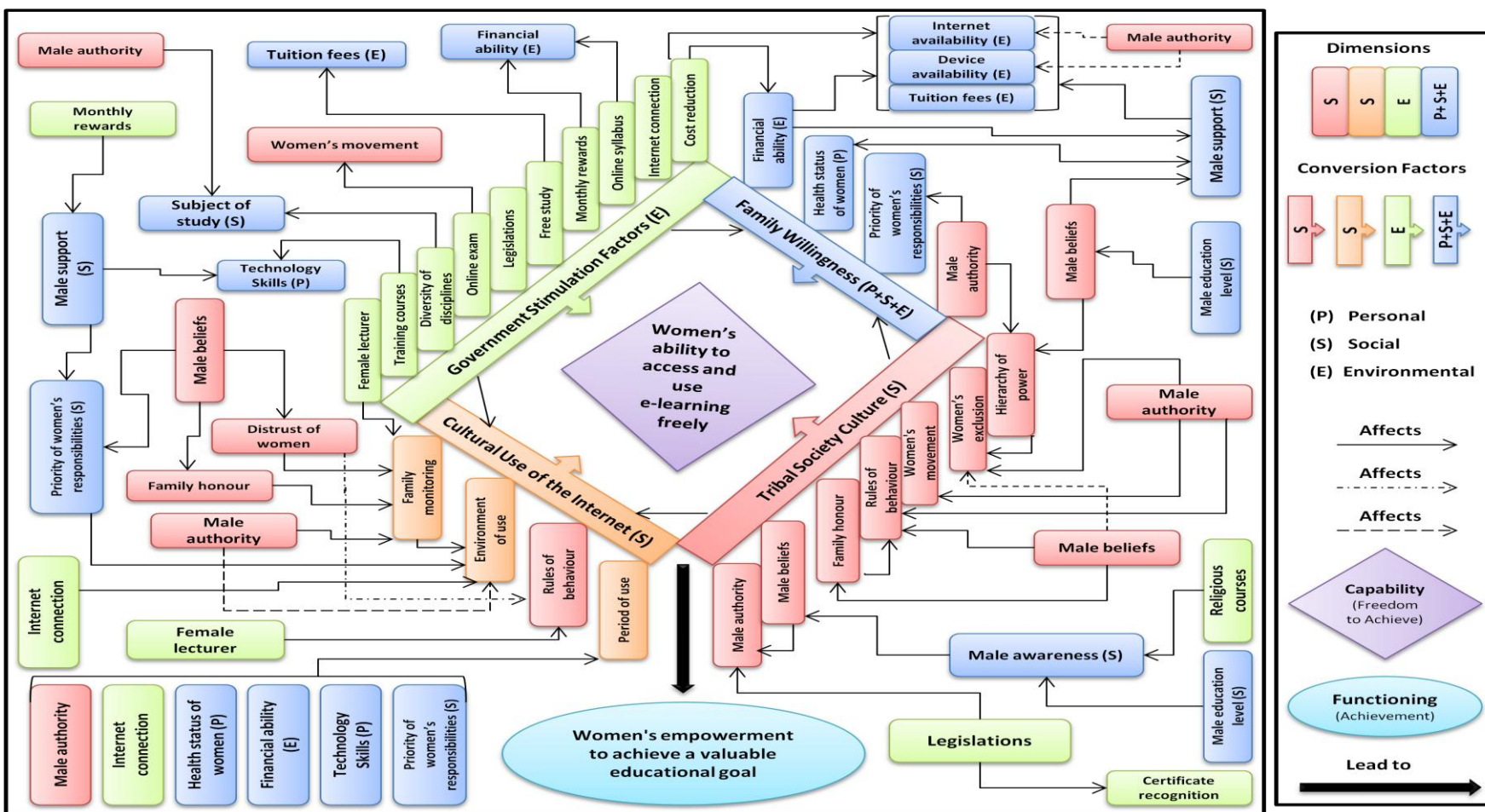


Figure 7-6: An Integrated Model to Illustrate the Dimensions that Characterise the Capability Requirements that Apply to Women in Saudi

Arabia Using E-learning

The above diagram demonstrates the integration between capability approach and grounded theory as well as the way they support each other by exemplifying the factors that affect Saudi women's capability to take up e-learning and their dimensions as well as their relationships with each others. It identifies four key factors that affect Saudi women's ability to access and use e-learning freely. These are tribal society culture, cultural use of the internet, family willingness and government stimulation factors. These factors were distributed based on the capability approach conversion factors namely: personal, social and environmental factors. It can be seen that the social factors play a significant role in affecting Saudi women's ability to convert the opportunity offered by e-learning into a valuable educational achievement.

This diagram also determines thirty-four dimensions that characterise the capability requirements that apply to women in Saudi Arabia using e-learning and their relationships with each other. These are family honour, family monitoring, female lecturer, financial ability, free study, health status of women, hierarchy of power, implementation of religious courses, internet availability, internet connection services, legislations, male authority, male awareness, male beliefs, male education level, male support, monthly rewards, online exam, online syllabus, period of use, priority of women's responsibilities, certificate recognition, rules of women's behaviour, subject of study, technology skills, training courses, tuition fees, women's exclusion and women's movement. These dimensions were distributed in terms of their relation to the capability approach conversion factors namely: personal, social and environmental factors. It can be seen that the dimensions that are related to society are the



dimensions that characterise the capability requirements of Saudi women to take up e-learning.

### **3. Validating the relationships**

According to Strauss (1990), following the identification of how the other categories relate to the core category via the paradigm, the next and last step of the analysis process of selective coding is validating these relationships (theory) against the data. To do so, Strauss and Corbin (1998, p. 159) suggest two ways, which are as follows:

- *“To go back and compare theory against raw data.*
- *To tell the story to respondents or ask them to read it and then request that they comment on how well it seems to fit their cases.”*

The study goes back to the data technique which was used to validate the relationships between categories on one side and with the core category on another side (cf. Section 7.2). For instance, by going back to the data, the impact of the ‘male authority’ subcategory on the ‘rules of women’s behaviour’ subcategory was identified when one participant said: *“Based on my husband’s rules regarding the use of technology, I am not allowed to make any type of communication with the lecturer if it is a man” (F3).*

### **7.4. NVivo Role in Data Analysis Process**

In this study, a variety of features of the NVivo 10 software were used to support and organise the data analysis process of the grounded theory, as will be discussed below. According to Walsh (2002), Punch (2005), Bringer et al. (2006), Bryman (2008) and Hutchison et al. (2010), possible benefits from using the NVivo software in grounded theory analysis are as follows:

- Enhancing the process of grounded theory coding by making it faster, more accurate and more efficient than usual.
- Helping with the organisational and facilitative aspects of managing data by offering flexibility to search and link ideas, as well as code data and grounded data with concepts.
- Helping to avoid any possibility of human error when searching for information on the whole data set.

In addition to these benefits, Bazeley and Jackson (2013, p. 3) state that applying NVivo through the analysis procedure of qualitative data (grounded theory) will assist the management of data and ideas, data enquiry and data report.

However, to describe and present the way NVivo was used within the analysis process of this study was a bit challenging for the researcher (Bringer et al., 2004). In order to address this, numerous screen prints were used when the researcher found it necessary to illustrate the role that NVivo played in supporting the analysis process of this study. Therefore, below is a description of the way NVivo was used to help in this study:

Using the NVivo 10 software began with loading data into the program (see figure 7-7).

SAUDI WOMEN AND E-LEARNING.nvproj - NVivo

File Home Create External Data Analyze Query Explore Layout View

Go Refresh Open Properties Edit Paste Copy Merge Format Paragraph Styles Editing Proofing

Workspace Item Clipboard

Sources

- Interviews
- Externals
- Memos
- Framework Matrices

Look for: Search In Interviews Find Now Clear Advanced Find

Name	Nodes	References	Created On	Created By	Modified On	Modified By
1	183	441	14/05/2013 14:23	Y	29/06/2013 17:35	Y
2	193	388	14/05/2013 14:23	Y	02/07/2013 16:17	Y
3	202	454	14/05/2013 14:23	Y	29/06/2013 17:35	Y
4	155	341	14/05/2013 14:23	Y	29/06/2013 17:35	Y
5	191	404	14/05/2013 14:23	Y	29/06/2013 17:35	Y
6	177	453	14/05/2013 14:23	Y	30/06/2013 07:39	Y
7	200	425	14/05/2013 14:23	Y	29/06/2013 17:35	Y
8	200	446	14/05/2013 14:23	Y	30/06/2013 08:12	Y
9	205	556	14/05/2013 14:23	Y	30/06/2013 08:10	Y
10	195	402	14/05/2013 14:23	Y	29/06/2013 17:35	Y
11	169	349	14/05/2013 14:23	Y	29/06/2013 17:35	Y
12	154	382	14/05/2013 14:23	Y	01/07/2013 17:10	Y
13	171	444	14/05/2013 14:23	Y	30/06/2013 08:22	Y
14	169	283	14/05/2013 14:23	Y	30/06/2013 20:26	Y
15	163	328	14/05/2013 14:23	Y	29/06/2013 17:35	Y
16	195	303	14/05/2013 14:23	Y	29/06/2013 17:35	Y
17	165	420	14/05/2013 14:23	Y	01/07/2013 17:13	Y
18	150	318	14/05/2013 14:23	Y	29/06/2013 17:35	Y
19	201	428	14/05/2013 14:23	Y	29/06/2013 17:35	Y
20	171	390	14/05/2013 14:23	Y	30/06/2013 08:23	Y
21	196	553	14/05/2013 14:23	Y	29/06/2013 17:35	Y
22	172	376	14/05/2013 14:23	Y	29/06/2013 17:35	Y
23	190	373	14/05/2013 14:23	Y	29/06/2013 17:35	Y
24	135	324	14/05/2013 14:23	Y	29/06/2013 17:35	Y

Y 24 Items

Figure 7-7: All interviews data loaded in NVivo

After that, the first step of the data analysis process (open coding) started by applying some related features of NVivo that helped with the analysis process of open coding. These were as follows:

1. Identifying concepts (dimensions): NVivo has got a feature called “creating nodes” which was used to code any words, phrases, sentences and actions that are meaningful to the study and give each concept a name that represents the phenomenon under it. This process was done by opening the source you want to extract codes from, highlighting the parts (words, phrases, sentences and actions) that needed to be coded and then giving them a name that seemed to represent the idea in that data. This process was repeated until the end of each document was reached. Doing this demonstrated that concepts emerged from the data themselves and the relevant data of each concept was stored in its node. In addition, the NVivo memo feature was used to justify the text

selection and name each node. At the end of this process, several codes were created under the name “free nodes”, which means that they are not related or connected to anything else. They just explain the ideas and concepts in the data (see figure 7-8).

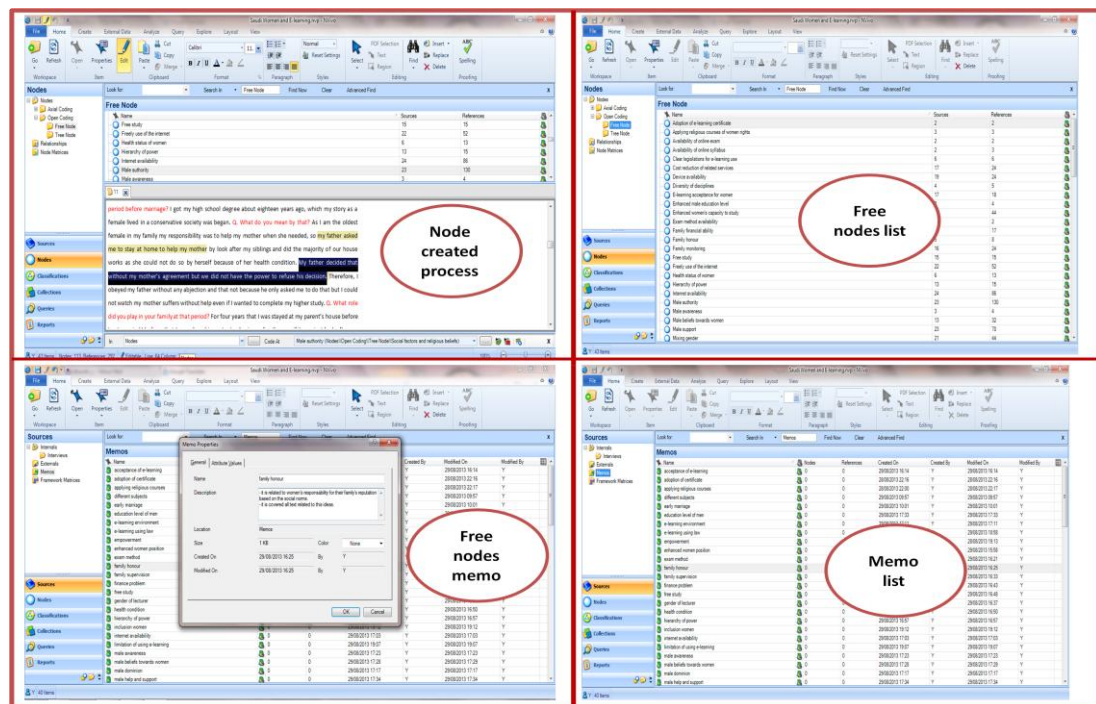


Figure 7-8: Process of Identifying Concepts (dimensions)

2. Creating and developing the initial categories/groups of conversion factors: NVivo has got a tool called “tree nodes” which was employed to organise and classify concepts (dimensions) that seemed to relate to the same phenomena in one group in terms of the nature of their properties and dimensions in order to reduce the increased coding (nodes) numbers and enhance their structure. This process was done by relating each node (dimension) to other nodes that expressed similar ideas and by identifying the specific properties and

dimensions of each category (group) to develop and inform the relationships between categories (see figure 7-9).

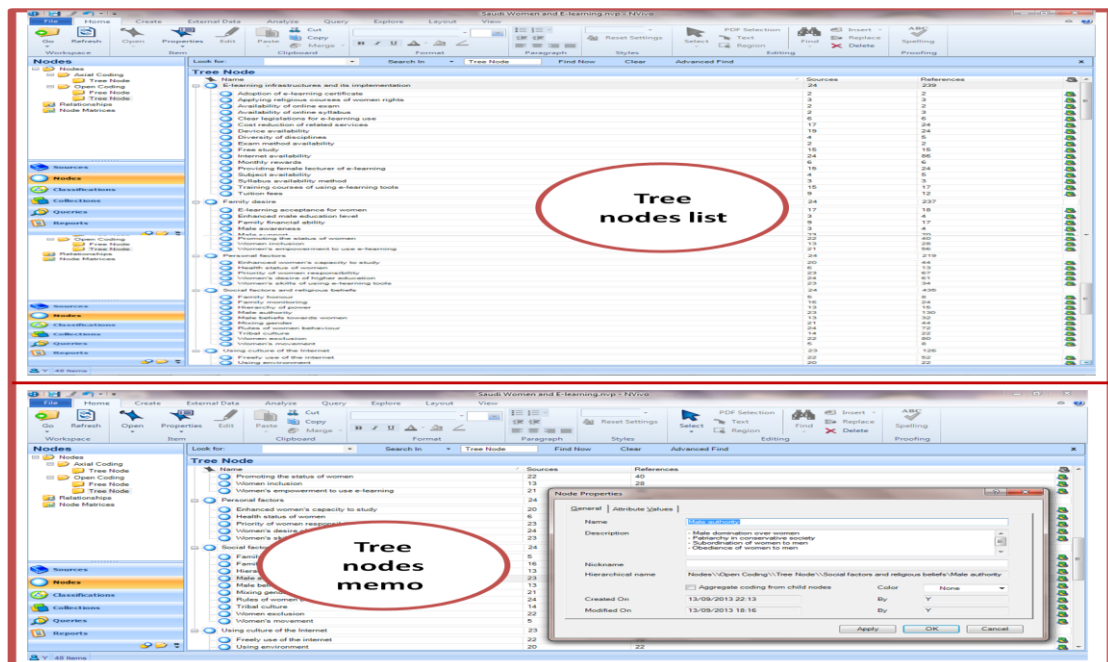


Figure 7-9: Process of Creating and Developing the Initial Categories (groups)

After the analysis process of open coding was completed, the process of axial coding started by applying some related features of NVivo that helped the analysis process of axial coding. These were as follows:

- Reassembling the data that was broken through open coding in terms of the axial coding purpose of analysis, Sen's conversion factors and the properties and dimensions of concepts by applying the 'tree nodes' function of NVivo to reorganise and reclassify concepts that seem to relate to the same phenomena in one group. This process was followed by the same process already used to create and develop the initial categories of conversion factors in the open coding part (see figure 7-10).

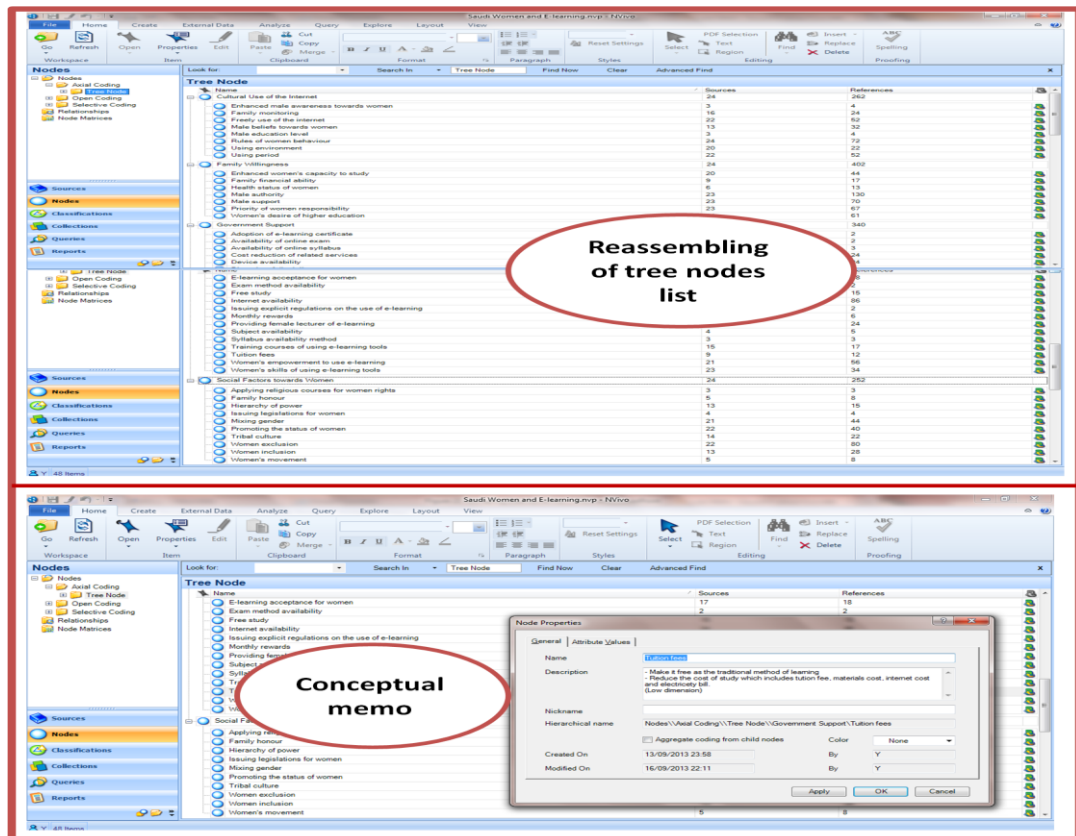


Figure 7-10: Reshaping Data Process and Creating the Final Categories (Groups)

- Related the categories/groups of conversion factors in terms of the elements of coding paradigm “*causal conditions, phenomenon, context, intervening conditions, action/interaction strategies and consequences*” (Strauss and Corbin, p. 99) by applying the memo function on NVivo, to encourage the conceptual and theoretical development of the analysis process. This process was done by creating a conceptual memo for each category to analytically explore the relationship between them and answer the questions of what, when, where, with whom, how and with what consequences (see figure 7-11).

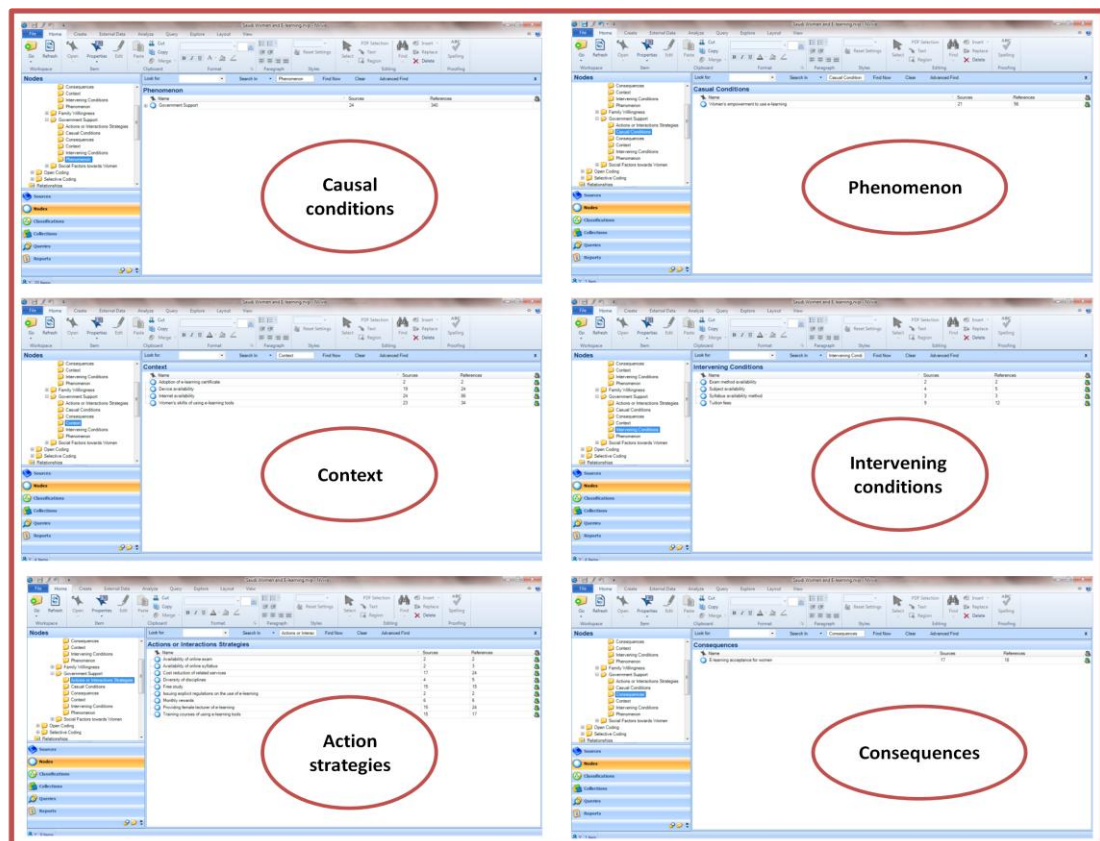


Figure 7-11: Related Categories and Subcategories via Paradigm Coding Process

After the analysis process of axial coding was completed, the process of selective coding was started by applying some related features of NVivo. They were the following:

- Relating other categories with the core category in light of the paradigm model elements by applying the relationships function of NVivo. This process was done by creating the relationships between other categories and the core category in order to identify the role that each one played e.g. conditions or consequences (see figure 7-12).



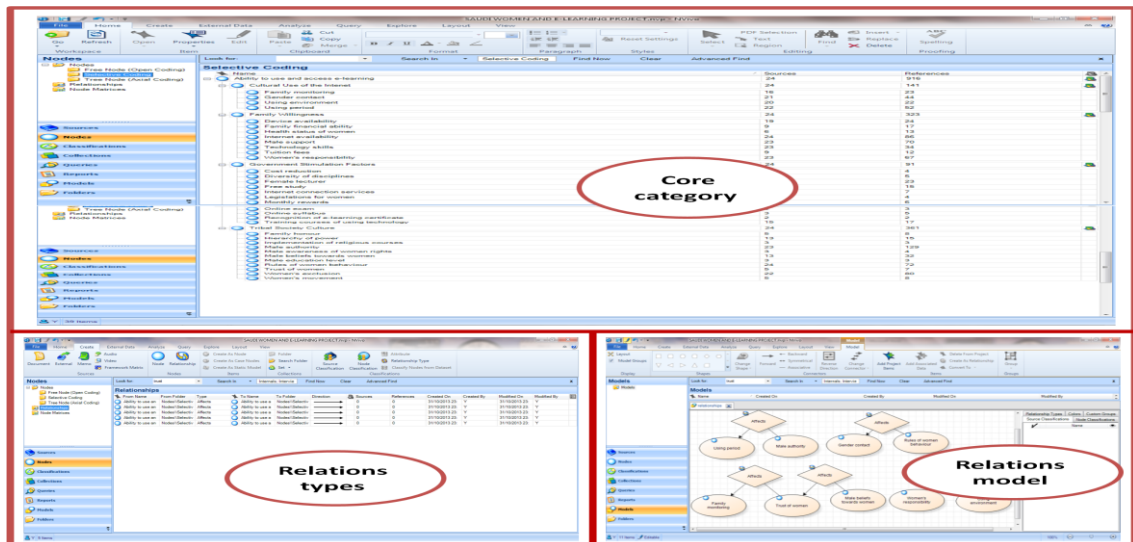


Figure 7-12: Relationships between Categories (Groups) in Selective Coding Stage

- Providing a visible classification of the relationships between categories (groups) and the core category by applying the model building function on NVivo to encourage conceptual and theoretical development of the analysis process. This process was done by creating a diagram in order to show the relationships between categories (groups) and the core category (see figure 7-13).

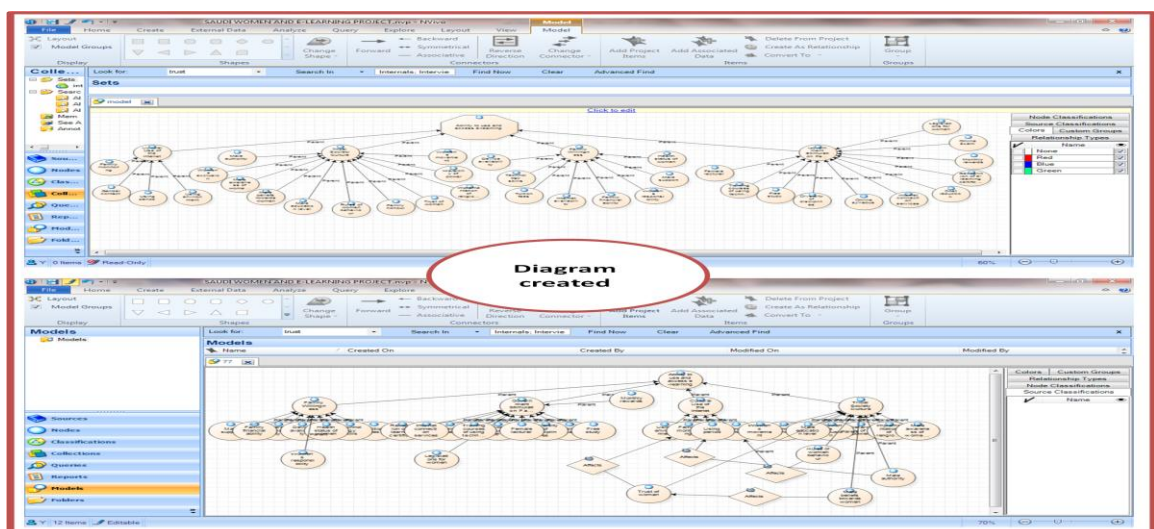


Figure 7-13: Model Building



In addition, some functions of NVivo were used to support the process of analysis and review its progress, such as query and the report tools.

### **7.5. Data Analysis Challenges**

In the analysis of data stage some challenges arose because of the fact that the researcher is a man, which needed to be addressed in order to have a full understanding of the phenomenon and to avoid any possibility of an effect on the achievement of the main goal of this study as well as to offer some triangulation of research findings in light of the analysis process. Even though the researcher controls it, he might be accused of not being rigorous enough because of a bias that results from him (the researcher) being a man. According to Kaufman (1999), men are generally not believed to be opposed to feminism because of the power and benefits they enjoy. Men who are concerned by feminism are therefore not believed to be honest (Sanders, 1998). Being a Muslim and from Saudi Arabia, the researcher might be influenced by religious beliefs which could impact his interpretation of data. Margot (2001) points out that the line between political Islam and Islamism is very thin. The researcher might be accused of attacking the religion or he might himself get confused and view a political issue as Islamism. To address this, the researcher invited two Saudi women researchers (Nofe Alaliany and Reem Alhidare) who have experience and knowledge on this subject. Their backgrounds fits with the sample of this research as one of them is from the Northern region and the other one is from the Southern region. They were asked to check and give their opinion about the whole analysis process of choosing dimensions. It was totally positive and made a few suggestions e.g.

to support each dimension with more than one quotation from the interviews and to change the name of one dimension from women's behaviours to rules of women's behaviours. The researcher responded to them as you can see below. In addition, the researcher applied the four criteria introduced by Robeyns (explicit formulation, methodological justification, different levels of generality and exhaustion and non-reduction) in order to avoid bias that could be introduced from the personal background of researcher as it would affect the selection process of the dimensions (capabilities). These would be minimised bias on the findings and conclusions drawn because of the researcher's bias.

Because of the fact that the process of choosing the dimensions of the capability approach is open and vague, selecting dimensions was another challenge that came up. Thereby, it became a problem for the researcher to select the relevant dimensions of the issue under study (the ability of Saudi women to access and use e-learning freely) (Robeyns, 2003a; Alkire, 2008). To address this, the researcher applied ongoing deliberative participatory and check and balance techniques with the grounded theory support in order to enhance the way used to select the important dimensions (capabilities).

## **7.6. Summary**

It has been seen that using the capability approach alongside the grounded theory as an analytical framework to analyse collected data from the field was useful to present intensive and deep dimensions (capabilities) that would influence women's ability to access and use e-learning freely. This process of analysis was used with the support of

the NVivo program by using some of its relevant functions such as free and tree nodes, memo and node properties, report, query and model tools. In order to ensure the presented dimensions were valuable for the participants (women) in this study, Alkire's and Robeyns' techniques of choosing dimensions were used with the analysis process of the grounded theory as support. In the next chapter, the findings of this study will be introduced.

## **8. Findings of the Study**

The purpose of this chapter is to discuss the outcomes of data analysis by introducing the finding of the dimensions through their impact on each other, with some extracts from interviews to demonstrate these impacts.

### **8.1. Introduction**

An integration process between the three coding (open, axial and selective) analysis processes of the grounded theory and capability approach was used to analyse the data collected from the field to formulate a theory on the ability of Saudi women to convert e-learning opportunities into achieving their higher educational goals. It also was used to create an integrated model of the dimensions that characterise the capability requirements to apply the uptake of e-learning by women in Saudi Arabia. The theory that was reached by this study is that it is not enough to provide Saudi women with an opportunity to complete their higher education via e-learning without giving them the power to access and use it freely whenever they are able to and want to do so, as their ability to convert this opportunity into a valuable educational achievement is limited and affected by tribal society culture, cultural use of the internet, family willingness and government stimulation factors. The integrated model that this study introduced to illustrate the capability requirements to apply the uptake of e-learning by women in Saudi Arabia, consisted of four main categories (conversion factors) namely: tribal society culture, cultural use of the internet, family willingness and government stimulation factors. These categories (factors) include thirty-four subcategories (dimensions) such as male authority, period of use, priority of women's

responsibilities and monthly rewards (see figure 7-6). Therefore, it became apparent that these factors played fundamental roles in affecting women's ability to access and use e-learning freely. For clarification purposes, the findings of this study will be presented in two sections, based on the interrelationships between dimensions on one side and between conversion factors on the other side.

## **8.2. Interrelationships between Dimensions**

The ability of women to access and use e-learning freely is affected by numerous dimensions and their relationships with each other, which will be discussed in this section (see figure 7-6). However, it would be difficult to present all of these relationships under separate headings because of their complex relations with each other. Therefore, the impacts of some dimensions such as women's exclusion will be explained via others, based on their relationships with each other, instead of explaining them all independently. In order to achieve that and to simplify the display of the interrelationships between dimensions, these relations shown in figure 7-6, will be divided based on the impact of each dimension and be described according to how they are interlinked to each other in terms of their roles in affecting the ability of Saudi women to access and use e-learning, with the support of the collected data by using two different types of relations namely: reinforce and reduce the effect.

### **8.2.1. Male authority**

It became apparent that the male power aspect played a vital role in the ability of women to access and use e-learning freely as it leads to reinforce the existence of the impact of some dimensions on women's ability (see figure 8-1). These dimensions are:

- **Rules of women's behaviour**, the male authority reinforces the existence of the impact of the rules for women's behaviours on women's ability, by concentrating on the rules that women have to follow when they need to access and use e-learning, such as they firstly have to obtain their guardian's agreement to do so. This can be seen when some women said:

*"I have to get my guardian's agreement in advance before doing anything even if it is very important to me." (F6)*

*"I do not make any contact with men lecturer without my father knowing and giving his agreement." (F14)*

*"I have to let my husband know when I want to use technology so he can give me his agreement or not." (F19)*

- **Women's movement**, male authority reinforces the existence of the impact of women's mobility on women's ability by reducing their movement when they are not allowed to move with non-relative men to take the e-learning exam, in a place that is determined by the university. This can be seen when some women said:

*"I cannot move freely outside my house without my father permission, even if it is for my studies." (F4)*

*"...my father does not allow me to go alone or with any strange man to the exam's centre." (F14)*

- **Hierarchy of power**, male authority reinforces the presence of the impact of the hierarchy of power structure on women's ability by distributing the power

between men from the oldest to the youngest one without any inclusion of the role of women. This can be seen when some women said:

*“My father made my brother responsible for me and my sisters before he died and when he took his role he decided that I had to stop my studies.” (F8)*

*“My uncle took on the responsibility for our family after my father died because my brother is still young to do so. He did not let me complete my higher studies via e-learning as my father agreed before he died.” (F10)*

- **Women’s exclusion,** male authority reinforces the existence of the impact of women’s exclusion on women’s ability by not including them when taking any decision for their own life. This can be seen when some women said:

*“The decision maker of all things in our family is my husband even if these things relate to my life in particular.” (F3)*

*“I told my father there is another way I can use to complete my higher studies, from home, via e-learning, but he refused this method and he did not care about my feelings when he did so.” (F12)*

- **Priority of women’s responsibilities,** male authority reinforces the presence of the impact of the priority of women’s responsibility on women’s ability by putting the priority of women’s responsibility onto their family over their studies. This can be seen when some women said:

*“My husband agrees to leave me complete my higher studies via e-learning after the first year of our marriage but without any lack in my responsibility as a wife and a mother in the future because my family comes first.” (F16)*

*"The priority will be my family over my studies, based on my husband's rules for giving me his agreement to use e-learning in my studies." (F17)*

- **Period of use**, male authority reinforces the existence of impact of used periods of e-learning by reducing the time that women can have access to and use e-learning. This can be seen when some women said:

*"My husband will not allow me to use the computer and the internet late at night." (F1)*

*"I cannot use the internet and computer very late at night based on my father's rules." (F14)*

- **Environment of use**, male authority reinforces the existence of the impact of the environment used on women's ability by reducing the number of places women can use when they want to access and use e-learning. This can be seen when some women said:

*"One of my husband's rules will be that I use the internet and the computer in the room my family sits in." (F2)*

*"I always use the internet and the computer in an open space at home, based on my husband's rule regarding e-learning." (F15)*

- **Family monitoring**, male authority reinforces the presence of the impact of family monitoring on women's ability by putting women under monitoring when they want to access and use e-learning. This can be seen when some women said:

*"I will not be able to use the computer and the internet without my husband attending because he wants to observe me." (F1)*



*"My husband will not allow me to use the internet and the computer in a private room in order to monitor me." (F3)*

- **Subject of study**, male authority reinforces the existence of the impact of the subject of study on women's ability by reducing the subjects that women can choose to study. This can be seen when some women said:

*"It does not matter which subject e-learning offers for women as it is my father who will choose the subject that I will study even if I do not want it." (F11)*

*"The subject that I study is my husband's choice as he links his agreement to let me complete my higher studies via e-learning with studying his choice of subject, so I accepted to study it as I did not have another choice to complete my studies." (14)*

- **Internet availability**, male authority reinforces the existence of the impact of the internet availability on women's ability by reducing the possibility to get internet subscription at home. This can be seen when some women said:

*"My brother could not get an internet subscription before getting my father's agreement to do so." (F4)*

*"Without my husband's approval I cannot get internet at home, so I have to follow his rules when I use e-learning to keep internet working at home otherwise he will cancel our internet subscription." (F13)*

- **Device availability**, male authority reinforces the existence of the impact of device availability on women's ability by reducing women's chances to own a computer. This can be seen when some women said:

*"If I want a computer I have to ask my husband to buy it for me as I cannot get it without his agreement." (F9)*

*"I do not have a private computer to use for my studies as my husband did not agree to buy me one, so I have to ask him to give me his computer to do so, but he sometimes refuse." (F16)*

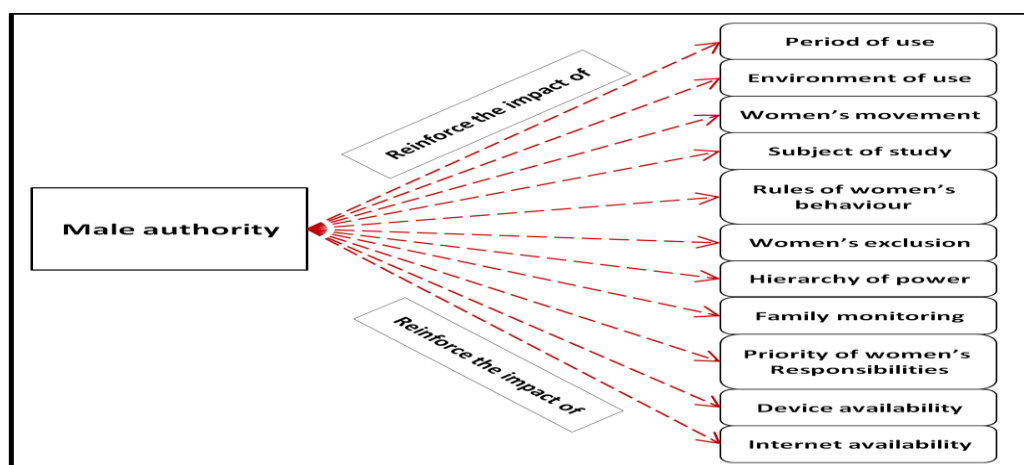


Figure 8-1: The impact of male authority on other dimensions

### 8.2.2. Male beliefs

Another significant aspect that would impact on the ability of women to access and use e-learning freely was male beliefs as these lead to reinforce the impact of some dimensions on women's ability (see figure 8-2). These dimensions are:

- **Rules of women's behaviour**, male beliefs reinforce the presence of the impact of the rules of women's behaviour on women's ability by supporting the beliefs that women need to follow some rules when they want to access and use e-learning such as they are not allowed to contact men through e-learning. This can be seen when some women said:

*“Avoiding contact with men increases my chances to finish my studies because my husband is as any Eastern man who believes that his wife should not have any type of communication with strange men.” (F1 and F20)*

*“My father believes that I have not made any contact with male lecturers when I use e-learning.” (F12)*

- **Family honour**, male beliefs reinforce the presence of the impact of family honour on women’s ability by reminding women to be aware of its importance and emphasising the need to not do anything that could lead to losing it when they access and use e-learning. This can be seen when some women said:

*“The only thing that I will do to encourage my brother to give me his agreement to complete my studies via e-learning, is promising him that I will keep my family honour safe, as he is concerned about it and believes it is important for our family’s reputation.” (F10)*

*“Based on my husband’s beliefs, the most important thing I have to keep in mind when I use e-learning is my family’s reputation.” (F15)*

- **Hierarchy of power**, male beliefs reinforce the existence of the impact of the hierarchy of power structure within families on women’s ability by giving men all the rights and responsibilities for their women in their family including their studies. This can be seen when some women said:

*“My brothers believe in their rights to be responsible for me, so they transfer their authority between them and take decisions about my life without any need for my presence.” (F4)*

*"My father is disabled and because of that my brother takes the responsibility for our family from my father forcibly, as he believes it is his right to do that since he is the oldest son." (F15)*

- **Women's exclusion**, male beliefs reinforce the presence of the impact of women's exclusion within their family and societies, on women's ability by not letting women take on important roles in their family's life. This can be seen when some women said:

*"The problem is about the way that my husband looks at me and deals with me since he always ignores me" (F2).*

*"Men believe that women are lower than them and as a result of that, they do not let them play a big part in the family and share their decisions." (F21)*

- **Male authority**, male beliefs reinforce the presence of the impact of male authority over their women on their ability as they believe in their rights to be responsible for their women. This can be seen when some women said:

*"I think changing males' negative views towards women will lead them to reduce their power." (F6)*

*"My father believes in the subordination of women to men and in his rights to be responsible for his women relative." (F7)*

- **Priority of women's responsibilities**, male beliefs reinforce the presence of the impact of the priority of women's responsibility towards their family over their studies by asking women to concentrate on their duties towards their family before their studies. This can be seen when some women said:

*"I have to do my duties towards my family first and then study." (F12)*

*“Men in our society live with the opinion that women’s role is to respond to their husband’s orders without any negotiation and they do not want to change that view, so my husband will be my first priority if I want to use e-learning.”*  
(F17)

- **Distrust of women**, male beliefs reinforce the presence of the impact of distrust of women on women’s ability by putting many rules and conditions in front of women who wants to access and use e-learning because in their opinion women cannot be trusted. This can be seen when some women said:

*“When my husband will see me as a human being he will respect me, rely on me and let me share with him all of these things that are very important for our family.”* (F2)

*“My father does not trust me so he has not allowed me to use the internet as he thinks the internet offers information against social norms.”* (F11)

- **Male support**, male beliefs reinforce the presence of the impact of male support on women’s ability by encouraging them to help and support their women to access and use e-learning. This can be seen when some women said:

*“I will receive help and support from my husband because of his positive view regarding women education.”* (F8)

*“My husband’s view towards women’s education level has been changed, so he will support me in this regards if I follow his conditions.”* (F18)

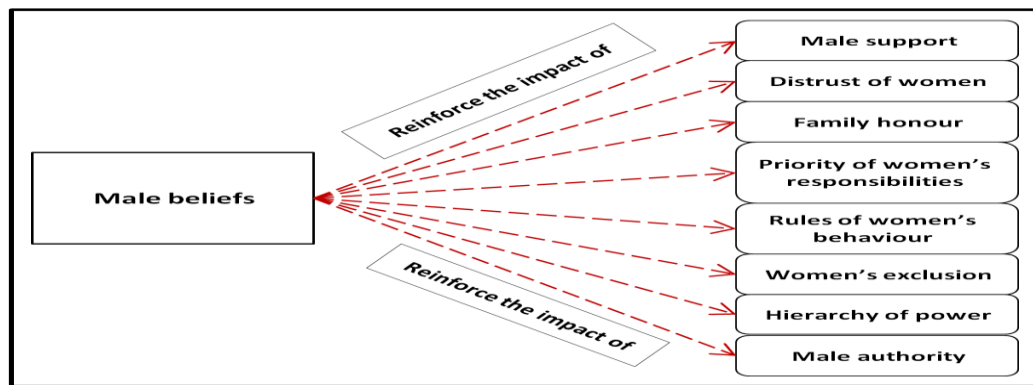


Figure 8-2: The impact of male beliefs on other dimensions

### 8.2.3. Family honour

Family honour would be another aspect that can influence the ability of women to access and use e-learning freely as it leads to reinforce the impact of some dimensions on women's ability (see figure 8-3). These dimensions are:

- **Rules of women's behaviour**, family honour reinforces the presence of the impact of rules of women's behaviour on women's ability by emphasising the rules that women have to follow when they want to access and use e-learning in order to maintain their family's reputation. This can be seen when some women said:

*"I am not allowed to contact male students as it will affect the reputation of my family if I do so. (...) I do not do anything that might affect our family's reputation negatively when using e-learning." (F12)*

*"I do not have any type of communication with any strange man, even through technology, to keep our family's honour safe as it is related to my behaviour." (F22)*

- **Family monitoring**, family honour reinforces the existence of the impact of family monitoring on women's ability by putting their women under supervision when they access and use e-learning by fear for their family's reputation. This can be seen when some women said:

*"My father's concerns for our family's honour lead him to put me under his monitoring all the time I used e-learning." (F14)*

*"I usually used e-learning in my husband's presence because he was afraid for our family's reputation as I might have done something that could lead to affect it." (F15)*

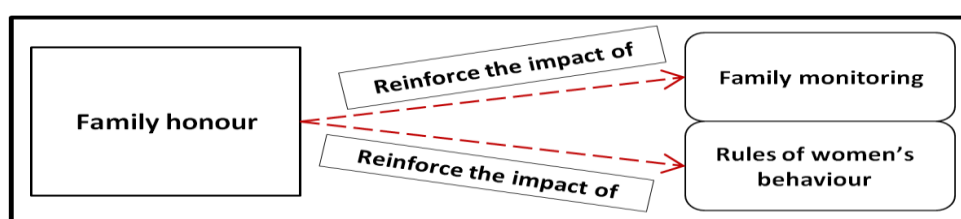


Figure 8-3: The impact of family honour on other dimensions

#### 8.2.4. Male support

Male support would be another aspect that would influence the ability of women to access and use e-learning freely as it leads to reduce the impact of some dimensions on women's ability (see figure 8-4), which are as follows:

- **Internet availability**, male support reduces the existence of the impact of internet availability on women's ability by helping them to reinforce their chance to get internet at home. This can be seen when some women said:

*"My father helps me to use e-learning in my higher study by providing the internet service at home." (F14)*

*"My husband supports my use of e-learning by making internet available at home." (F15)*

- **Device availability**, male support reduces the existence of the impact of device availability on women's ability by helping them to reinforce their chance to get their own computer. This can be seen when some women said:

*"My husband provided a new computer for me to use for my studies via e-learning." (F13)*

*"My father offered me a new computer to facilitate me studying via e-learning." (F12)*

- **Tuition fees**, male support reduces the existence of the impact of e-learning tuition fees on women's ability by helping women to alleviate concerns on how they can pay their e-learning tuition fees. This can be seen when some women said:

*"My father paid all of my studies' fees." (F12 and F14)*

*"My husband paid my studies' fees." (F13 and F15)*

- **Technology skills**, male support reduces the existence of the impact of technology skills on women's ability by helping women to reinforce their skills in using technology. This can be seen when some women said:

*"My husband lets me participate in a training course on computers and internet use." (F16)*

*"My husband has brought a female private tutor in to give me a basic knowledge on using computers and the internet." (F24)*



- **Priority of women's responsibilities**, male support reduces the existence of the impact of priority of women's responsibilities towards their family over their studies by helping them to look after their children as such things will give them a chance to study when they need to do so. This can be seen when some women said:

*"My husband helps me and takes his responsibilities towards our children, as he wants me to finish my studies." (F13)*

*"My husband always created the right atmosphere for me to be able to study as he looked after our children when I wanted to study." (F16)*

- **Health status of women**, male support reduces the existence of the impact of the health status of women on their ability by helping them to overcome this issue when offering them special equipments to facilitate their ability to access and use e-learning. This can be seen when some women said:

*"Because of the weakness of one of my eyes, my ability to see is not good so my husband supported me by providing a new computer with a big screen." (F15)*

*"My father will support me to use e-learning as he has not agreed with my decision to stop completing my higher studies based on my health problem and he always encourages me to finish them." (F23)*

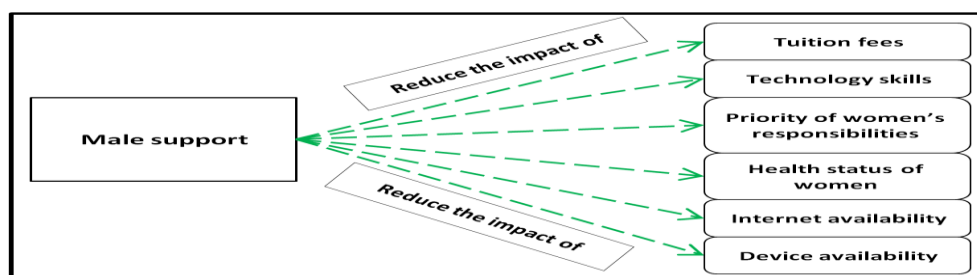


Figure 8-4: The impact of male support on other dimensions

### 8.2.5. Priority of women's responsibilities

Priority of women's responsibilities would be an additional aspect that can affect the ability of women to access and use e-learning freely as it leads to reinforce the impact of some dimensions on women's ability (see figure 8-5). They are as follows:

- **Period of use,** priority of women's responsibility reinforces the existence of the impact of the used period on women's ability by reducing the period of time that women can have access to and use e-learning. This can be seen when some women said:

*"I usually used e-learning when my children were in their quiet period but not for a long time." (F13)*

*"I always tried to make my children sleep early to give me chance to study as I was not allowed to use e-learning late at night." (F15)*

- **Environment of use,** women's priority of responsibility reinforces the existence of the impact of the environment of use on women's ability by reducing the places that women can sit in to access and use e-learning. This can be seen when some women said:

*"The presence of my family near me will affect my studies because they will be break my concentration but I have to deal with this situation to reach my goal." (F8)*

*"It is uncomfortable for me to study with my children present as they always lead me to lose my focus." (F13)*

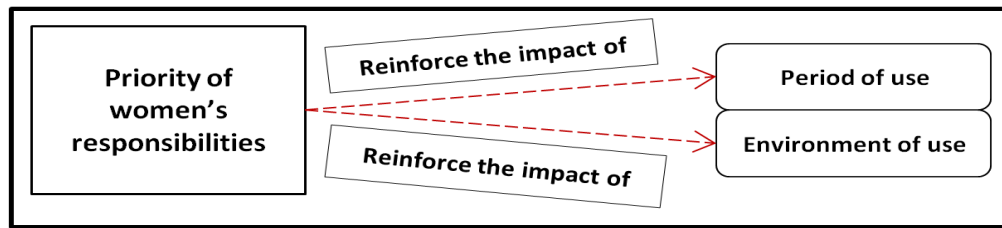


Figure 8-5: The impact of priority of women's responsibilities on other dimensions

#### 8.2.6. Health status of women

This factor can be another aspect that would impact on the ability of women to use and access e-learning freely as it leads to reinforce the impact of some dimensions on women's ability (see figure 8-6), which are as follows:

- **Male support**, the health status of women reinforces the existence of the impact of male support on women's ability by reinforcing male's desire to support women's access and use e-learning. This can be seen when some women said:

*"My ability to study is high, but because of my personality, as I am a very shy and quiet person, I could not complete my studies without my father agreement after I graduated from high school. Based on that, my father supported me to continue my studies via e-learning." (F12)*

*"As I have backache, my father provides me with a special chair to help me when I sit to study." (F14)*

- **Period of use**, women's health status reinforces the existence of the impact of used period on women's ability by reducing the time that women can access and use e-learning. This can be seen when some women said:

*"I do not spend much time on the internet and computer because of my eye problem. (...) I do not use the computer and the internet for long periods of time to keep my eyes away from the stress because of its problem." (F3)*

*"My health condition will limit me from spending time on my studies." (F11)*

*"My husband has one rule which is that I do not spend too much time using e-learning to look after my health as I am pregnant." (F16)*

*"I will not be able to spend much time on the internet and the computer because of my vision problem." (F22)*

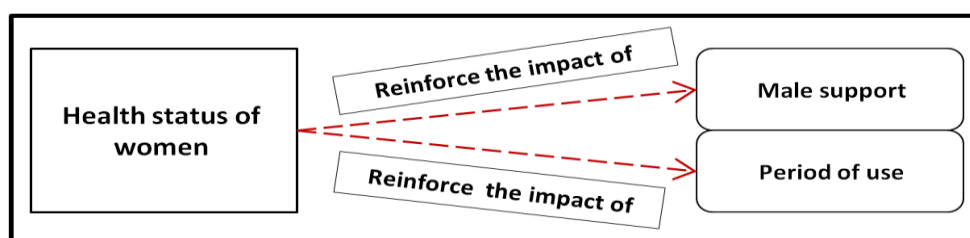


Figure 8-6: The impact of health status of women on other dimensions

### 8.2.7. Distrust of women

The data showed that there was a lack of trust in women among men, which affect their ability to access and use e-learning freely as it leads to reinforce the impact of some dimensions on women's ability (see figure 8-7). They are as follows:

- **Family monitoring**, the lack of women's trust amongst men reinforces the existence of the impact of family monitoring on women's ability by putting women under monitoring when they access and use e-learning. This can be seen when some women said:

*"I will not use e-learning without my husband being present so he can observe me as he does not trust me." (F1)*

*“I will use the internet and the computer in the room my family sits in, in order to be monitored because of the lack of trust in females.” (F2)*

- **Rules of women’s behaviour**, distrust of women reinforces the presence of the impact of rules of women’s behaviour on their ability by reinforcing the rules that women have to follow when they want to access and use e-learning. This can be seen when some women said:

*“I use e-learning conservatively because trust in women does not exist among my men relatives, to avoid anything that might lead them to stop my studies.” (F14)*

*“I always try to avoid any communication with male lecturers to demonstrate to my husband that I am a person he can trust.” (F16)*

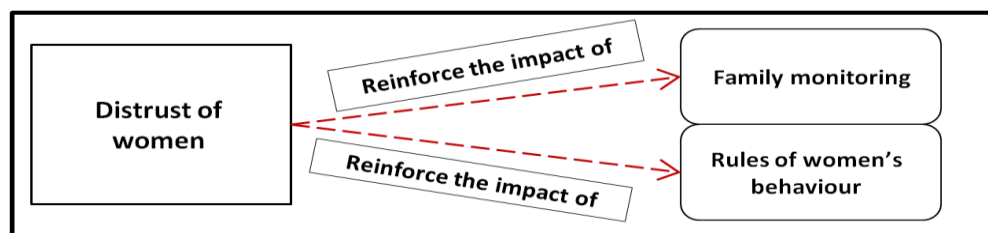


Figure 8-7: The impact of distrust of women on other dimensions

#### 8.2.8. Financial ability of the family

The financial ability of the family can be another aspect that would affect women’s ability to access and use e-learning freely as it leads to reinforce the impact of some dimensions on women’s ability (see figure 8-8). These are as follows:

- **Tuition fees**, the financial inability of the family reinforces the presence of the impact of tuition fees on women's ability by reducing the ability of women to pay their e-learning tuition fees. This can be seen when some women said:

*"Tuition fees are very high for me so it will be hard for my family to pay them."*

*(F3)*

*"My husband's ability to pay tuition fees will prevent me from using e-learning in my studies." (F19)*

- **Device availability**, the financial inability of the family reinforces the presence of the impact of device availability on women's ability by reducing women's chances of getting a modern computer. This can be seen when some women said:

*"I do not have extra money to buy a computer." (F2)*

*"I was not able to buy a modern computer to facilitate my studies via e-learning." (F15)*

- **Internet availability**, the financial inability of the family reinforces the existence of the impact of internet availability by reducing the chances to have a good internet subscription contract that would facilitate women's access and use of e-learning. This can be seen when some women said:

*"The possibility of paying for an internet subscription will be difficult for my husband because of our lack of family finance." (F3)*

*"Internet fees will prevent me from using e-learning in my studies because they will increase my family's monthly spending and it is hard to do so." (F18)*

- **Period of use**, the financial inability of the family reinforces the existence of the impact of period of use on women's ability by reducing the time that women need to access and use e-learning. This can be seen when some women said:

*"I will be aware of my family's financial capacity so I will use e-learning carefully to avoid any increase of the costs of electricity and internet bills." (F7)*

*"I use a computer and the internet for a short time to reduce the cost of the electricity." (F15)*

- **Male support**, the financial ability of the family reinforces the existence of the impact of male support by reinforcing his desire to help women access and use of e-learning, as he is financially able to offer his women their entire study requirements. This can be seen when some women said:

*"I am sure my husband will help me use e-learning by providing for my needs because of his ability to pay the e-learning fees and to buy me a computer." (F11)*

*"My husband's finance ability encouraged him to help me using e-learning." (F13)*

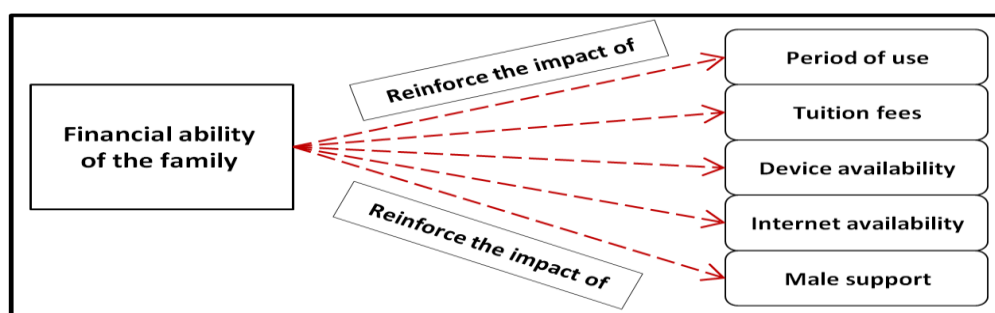


Figure 8-8: The impact of the financial ability of the family on other dimensions

### 8.2.9. Family monitoring

Another aspect that would affect women's ability to access and use e-learning freely is family monitoring as it leads to reinforce the impact of one dimension on women's ability (see figure 8-9), which is as follows:

- **Environment of use**, family monitoring reinforces the presence of the impact of the environment used on women's ability by reducing the places that women can use when they want to access and use e-learning. This can be seen when some women said:

*"I use the internet and the computer in the room my family sits in to be monitored." (F2)*

*"I cannot use e-learning just anywhere I want to study in because my father wants to monitor me." (F12)*

*"I used e-learning in an open space, not in private and in a closed room, for monitoring. (...) Less monitoring will enhance my continued use of e-learning in my studies and will make me feel confident." (F14)*

*"I have to use e-learning in an open room to be monitored by all of my family." (F16)*

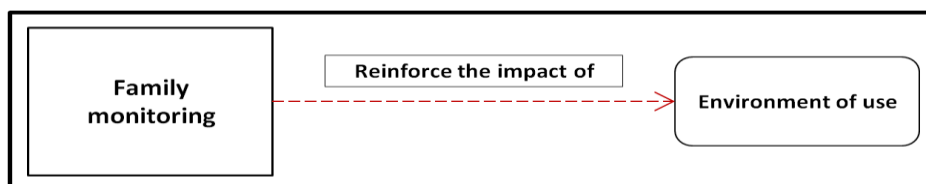


Figure 8-9: The impact of family monitoring on another dimension



### 8.2.10. Technology skills

Another aspect impacting women's ability to access and use e-learning freely would be women's skills regarding using technology as they lead to reinforce the impact of one dimension on women's ability (see figure 8-10), which is as follows:

- **Period of use**, the lack of women's technology skills reinforces the presence of the impact of period of use on their ability by extending the time spent using e-learning, while they are not allowed to use it for a long time based on their men's rules. This can be seen when some women said:

*"My lack of knowledge regarding using technology will affect my speed of using e-learning as I need to do it quickly because of my other responsibilities towards my family." (F7)*

*"I usually took a long time when I did my studying via e-learning as I do not have enough knowledge of the technology, which could affect me continuing to use e-learning." (F12)*

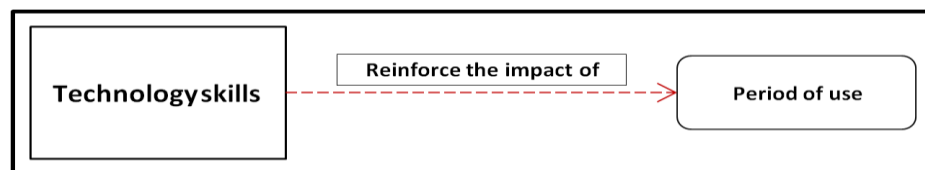


Figure 8-10: The impact of the technology skills on another dimension

### 8.2.11. Male awareness

Male awareness would be another aspect that can affect women's ability to access and use e-learning freely as it leads to reduce the impact of one dimension on women's ability (see figure 8-11), which is as follows:

- **Male beliefs**, male awareness of women's rights reduces the presence of the impact of male beliefs on women's ability by reinforcing their favourable view of women's rights in general and women's education in particular, so women's ability to access and use e-learning will be increased. This can be seen when some women said:

*"To increase my husband's awareness of my rights will increase my chances to complete my studies via e-learning as his view about my rights for an education will be enhanced."* (F8)

*"The negative view that men hold towards their women in our society is based on their lack of knowledge on women's rights."* (F10)

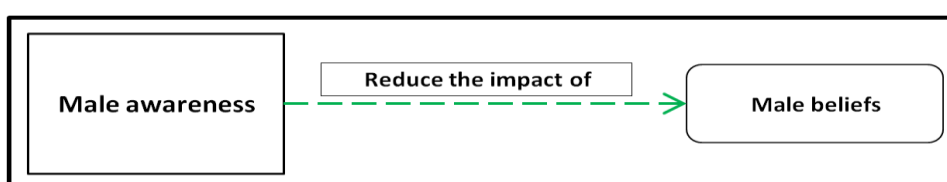


Figure 8-11: The impact of male awareness on another dimension

#### 8.2.12. Implementation of religious courses

The implementation of religious courses via the religious authority would be another aspect that affects women's ability to access and use e-learning freely as it leads to reinforce the impact of one dimension on women's ability (see figure 8-12). It is as follows:

- **Male awareness**, the implementation of some religious courses by the religious authority is one way the government could use to reinforce the awareness of

women's rights among men, leading to an increase in their ability to access and use e-learning. This can be seen when some women said:

*"Men will not change their negative perception towards women without following courses from religious scholars." (F2)*

*"I think giving men some essential courses on women rights, led by the religious authority, will make a slight change on their negative view towards women." (F6)*

*"There is a need to establish some courses through religious scholars to increase the awareness of men towards women's rights." (F2)*

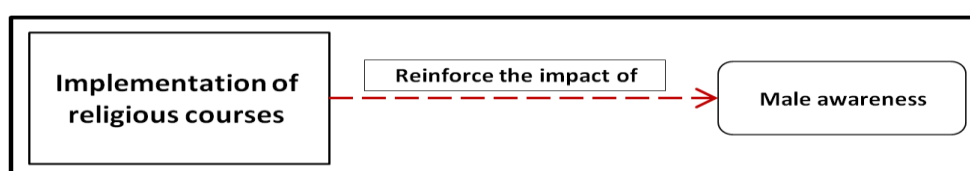


Figure 8-12: The impact of implementation of religious courses on another dimension

### 8.2.13. Hierarchy of power

The hierarchy of power within the family would affect women's ability to access and use e-learning freely as it leads to reinforce the impact of one dimension on women's ability (see figure 8-13), which is as follows:

- **Women's exclusion**, the hierarchy of man power within the family reinforces the presence of women's exclusion and its impact on women's ability by reinforcing the fact that men are responsible for women and by reducing women's rights to be responsible for themselves. Such practice could lead to

reduce women's ability to access and use e-learning. This can be seen when some women said:

*"I do not exist in my family as they do not ask me or listen to my opinion about anything in our family even if it is related to my life, such as marrying or studying, which is opposite to my brothers' situation in my family. For example, one day I asked my father to buy me a computer as I wanted to complete my higher studies via e-learning but he refused my request, however he accepted to buy it for my younger brother."* (F6)

*"It was my father who usually evaluated and made the decision for all of those things that are valuable to me, such as my studies, but after I got married I was transferred to the responsibility of my husband who now takes all decisions related to our life, without any participation from me."* (F13)

*"I am at the bottom of my family order so after the youngest boy in our family, as a result my opinion about anything is not important."* (F15)

*"Now I am the responsibility of my husband who I have to follow, not my parents, about my studies via e-learning."* (F17)

*"Men see women as at a lower degree than them and as a result of that, they do not let us play a big part in our family and share their decisions, even if it is for our studies."* (F21)

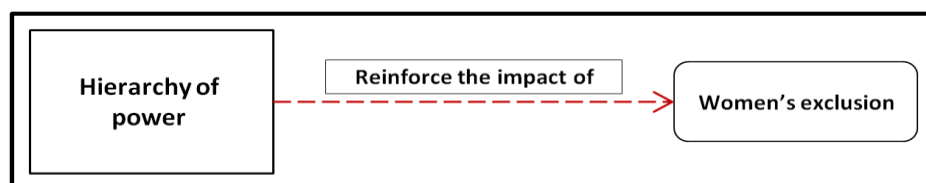


Figure 8-13: The impact of hierarchy of power on another dimension

#### 8.2.14. Male education level

Another aspect that would affect women's ability to access and use e-learning freely is male education's level as it leads to reduce the impact of one dimension on women's ability (see figure 8-14). This is as follows:

- **Male beliefs**, male education level reduces the presence of the impact of male beliefs on women's ability by reinforcing their favourable view towards women's rights regarding education. This can be seen when some women said:  
*"I wish the high education level that my husband will gain in the future will change things for the better in the way he deals with me." (F1)*  
*"Because of my husband's education level, he has got a MA in education, he has a different view about women's education which is that women who are well educated are better than those who are uneducated as they will influence their children education, so he was always encouraging me to complete my higher studies from the early stage of our marriage because of his beliefs of my ability to success." (F11)*

However, the level of male education aspect played another role in women's ability to access and use e-learning as it leads to reinforce the impact of one dimension on women's ability (see figure 43). This dimension is:

- **Male awareness**, male education level reinforces the presence of the impact of male awareness on women's ability by reinforcing the acceptance of women's rights among men. This can be seen when some women said:

*“I think his low level of education affects my father’s understanding of how much education is valuable to me and my sisters, as a result he follows a rule about our education which is that the highest education level that we can get is high school.” (F18)*

*“My father is a mathematics teacher as he has got a bachelor degree in this subject and is aware enough of the importance of education for all of his children so he always encourages and supports us to complete our studies via any method.” (F23)*

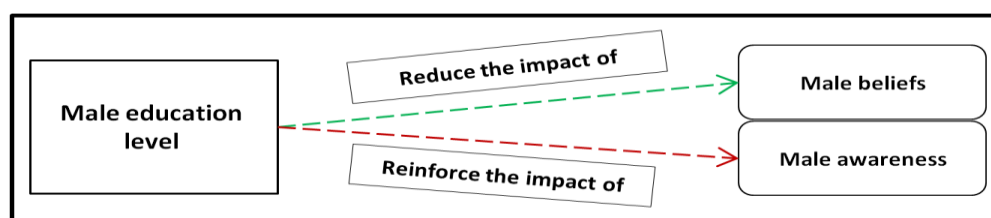


Figure 8-14: The impact of male education level on other dimensions

#### 8.2.15. Legislations

Legislations are the formal aspects issued by the government that would impact on the ability of women to access and use e-learning freely as they lead to reduce the impact of some dimensions on women’s ability (see figure 8-15). They are as follows:

- **Male authority**, legislations created by the government would help to reduce male authority over women as such thing could lead to increase women’s ability to access and use e-learning. This can be seen when some women said:

*“To issue some regulations to reduce male power towards women education in particular will facilitate my educational achievement through e-learning.” (F6 and F10)*

*“I believe that enhancing my ability to use e-learning without restrictions will not happen suddenly without government involvement through issuing regulations which impose that men give women their rights.” (F9)*

- **Recognition of certificate**, legislations issued by the government would help to reinforce the recognition of e-learning certificates and clearly reduce the students’ concern about this issue as such thing could lead to increase women’s ability to access and use e-learning. This can be seen when some women said:

*“When the government clearly adopts e-learning certificates as traditional method I will complete my studies via this method.” (F2)*

*“Recognition of this type of learning as the traditional method will encourage me to continue using e-learning.” (F14)*

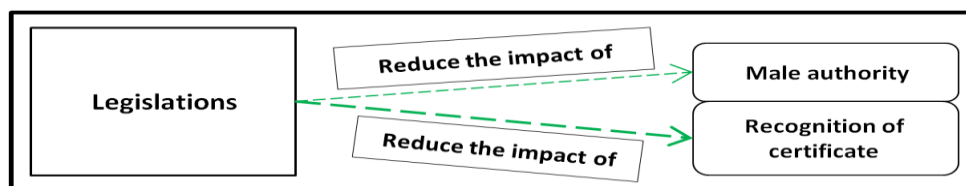


Figure 8-15: The impact of legislations on other dimensions

#### 8.2.16. Cost reduction

A cost reduction of all the services related to e-learning by the government would affect women’s ability to access and use e-learning freely as it would lead to reduce the impact of some dimensions on women’s ability (see figure 8-16). They are as follows:

- **Device availability**, cost reduction of e-learning devices would reinforce women's chances of having a computer, as such thing will improve their ability to use and access e-learning. This can be seen when a women said:  
*"The distribution of new computers at discounted prices for women, by the government, will facilitate my educational achievement through e-learning."*  
(F1)
- **Internet availability**, cost reduction of the internet services would reinforce women's opportunity of getting the internet in their home for e-learning and as a result their ability to use and access e-learning would be increased. This can be seen when a women said:  
*"Reductions in the cost of the internet should be made by the government as that would help me continue to use e-learning."* (F5)
- **Tuition fees**, cost reduction of e-learning tuition fees would reduce women's concerns for their inability to pay their tuition fees, so their ability to use and access e-learning would be increased. This can be seen when some women said:  
*"To reduce this method's tuition fees will encourage students (especially women) to complete their higher education using e-learning."* (F1 and F3)
- **Financial ability of the family**, cost reduction of some services that are related to e-learning would reinforce the financial ability of women's families, as a result women's ability to use and access e-learning would be enhanced. This can be seen when some women said:



*“To create discounts on electricity and the internet for those people who use this method of learning will support them in their financial situation and encourage them to complete their higher education this way.” (F2 and F3)*

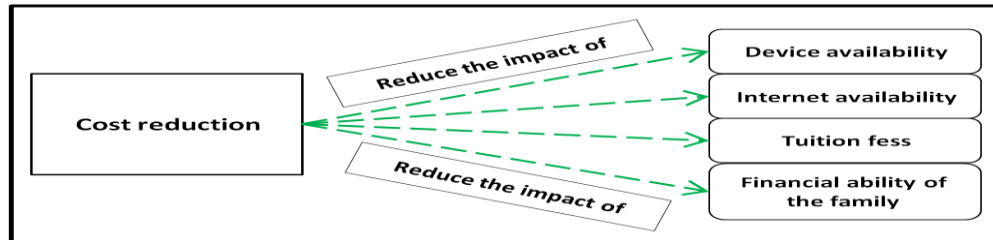


Figure 8-16: The impact of cost reduction on other dimensions

### 8.2.17. Monthly rewards

The government giving students monthly rewards would influence women’s ability to access and use e-learning freely as it would lead to reduce the impact of one dimension on women’s ability (see figure 8-17). This is the following one:

- **Financial ability of the family**, the government giving female students who use e-learning monthly rewards reduces the presence of the impact of financial ability on women’s ability as it would reinforce the financial ability of women, as a result their chances to access and use e-learning would be enhanced. This can be seen when some women said:

*“As with the traditional method of learning, giving students monthly rewards will facilitate their educational achievement through e-learning by supporting their financial condition.” (F14 and F16)*

*“Giving students some money each month, as for those using the traditional way, will financially enhance their chances to use this method of learning.”*  
(F23)

However, the monthly rewards’ aspect played another role in women’s ability to access and use e-learning as it leads to reinforce the impact of one dimension on women’s ability (see figure 46). This dimension is:

- **Male support**, the government paying female students monthly rewards reinforces the existence of the impact of male support by reinforcing their support towards their women’s use and access of e-learning. This can be seen when some women said:

*“Men are encouraged to support their female’s higher education via e-learning by giving them some money per female who finishes her higher studies and using this method of learning facilitates my educational achievement through e-learning.”* (F20)

*“Supporting women who use e-learning for their learning by giving them monthly money will help them to get their guardian’s support.”* (F21)

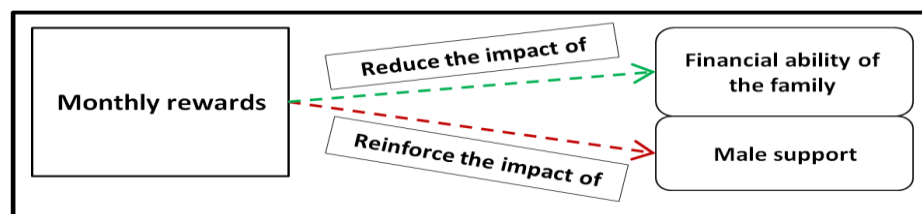


Figure 8-17: The impact of monthly rewards on other dimensions

### 8.2.18. Internet connection services

The connection services of the internet (speed and coverage) would be another aspect that could affect women's ability to access and use e-learning freely as it leads to reduce the impact of some dimensions on women's ability (see figure 8-18). They are as follows:

- **Environment of use**, a good coverage of internet connection reduces the presence of the impact of environment of use on women's ability by helping them reinforce the places they can use to access the internet for their studies, as they usually choose them based on their situation at the time they want to study, so their chances to find suitable places to study could be increased when the internet connection services have been improved. This can be seen when some women said:

*"The internet coverage will affect my use of e-learning negatively as I am not able to log on to the internet from just any place in my home, I have to find the right place each time I want to do so, which will be inconvenient when use it for my studies." (F7)*

*"I found that difficulties in finding a strong internet signal in my home can prevent me from continuing to use e-learning in my studies." (F16)*

- **Period of use**, the high speed of the internet connection reduces the presence of the impact of period of use on women's ability by reinforcing the time during which women can access and use e-learning. It will help them to finish their studies within the time period they are allowed to do so, which is limited, so their chances to meet these limitations will be increased when the internet

connection services have been improved. This can be seen when some women said:

*“Receiving the internet at high speed will help me to limit my time of use of the internet, which will facilitate my educational achievement through e-learning.”*

(F2)

*“I use e-learning for long periods of time because of the low internet speed which can prevent me from continuing to use e-learning in my studies.” (F16)*

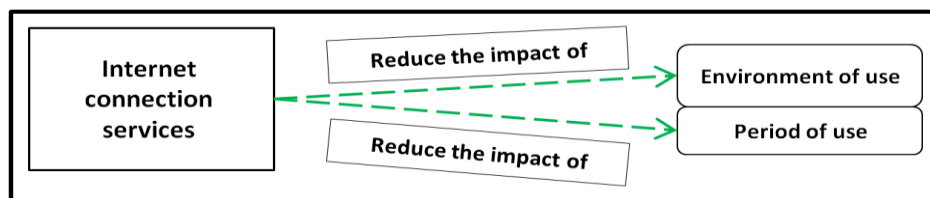


Figure 8-18: The impact of internet connection services on other dimensions

#### 8.2.19. Training courses

Training courses on using technology would be another aspect that would affect the ability of women to access and use e-learning freely as it would lead to reduce the impact of one dimension on women's ability (see figure 8-19). This is as follows:

- **Technology skills,** training courses reduce the presence of the impact of the lack of technology skills on women's ability by reinforcing women's knowledge about the proper way to use the internet and computers, as well as by explaining how they can access and use e-learning in their studies. This can be seen when some women said:

*“Creating free training centres for computers and the internet in order to give basic skills to those people who do not have them, will facilitate my educational achievement through e-learning.” (F5 and F8)*

*“Offering free training courses on using computers and the internet to help those people who want to study via the technology so will facilitate my educational achievement through e-learning.” (F15)*

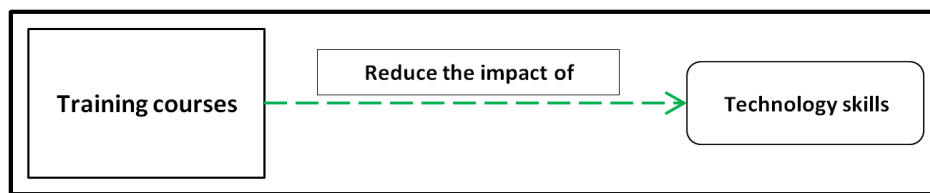


Figure 8-19: The impact of training courses on another dimension

#### 8.2.20. Female lecturer

Offering a female lecturer would be another key aspect that would affect the ability of women to access and use e-learning freely as it would lead to reduce the impact of some dimensions on women’s ability (see figure 8-20). They are as follows:

- **Rules of women’s behaviour**, the availability of female lecturers to teach women via e-learning would reduce those rules of behaviour that women have to follow when they want to access and use e-learning. As a result their ability to access and use e-learning would be improved. This can be seen when some women said:

*“I cannot make any type of communication with the lecturer if it is a man. (...) To create courses with female lecturers will provide the appropriate female environment.” (F3)*

*“Providing female lecturers will remove the possibility of contacting men.” (F4)*

*“Providing female lecturers in all courses will facilitate women’s education via technology.” (F10)*

*“The lack of female lecturers can prevent me from continuing to use e-learning in my studies as I am not allowed to contact men lecturers.” (F13)*

*“Providing female lecturers will enhance my continued use of e-learning for my studies.” (F15)*

- **Family monitoring**, providing a female lecturer to educate women via e-learning would reduce the need for families to monitor their women while they access and use e-learning. This can be seen when some women said:

*“My husband always asked me about the gender of the lecturer before he allowed me to use the internet and when I told him it was a man he put me under supervision, however his monitoring became lesser when the lecturer was female.” (F13)*

*“When I used the internet for my studies my father put me under monitoring, but with a male lecturer his supervision increased.” (F14)*

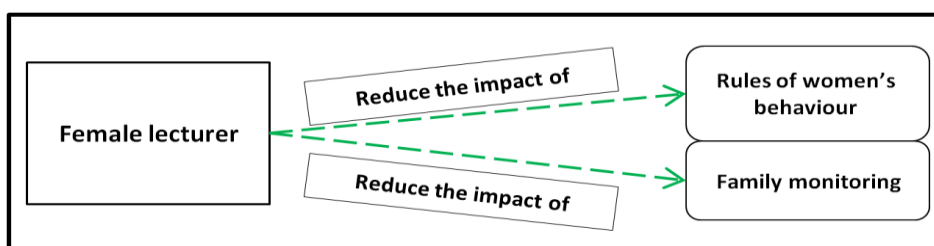


Figure 8-20: The impact of female lecturer on other dimensions

### 8.2.21. Online exam

The availability of online exams would be another aspect that could affect the ability of women to access and use e-learning freely as it would lead to reduce the impact of one dimension on women's ability (see figure 8-21) as follows:

- **Women's movement**, providing e-learning exams online would help women to reduce the movement barrier that men put in front of their use and access of e-learning. This can be seen when some women said:

*"I cannot do the final exams through e-learning from home, so I have to do it personally in the exam centre that the university usually opens in our region. But in order to do that, my husband must transfer me each day for the exams, which is very hard for all of us. Due to that I might not continue use e-learning."*  
(F13)

*"I prefer to do my exam via the internet, so I won't need to find someone to transport me to the exam's centre as I am not allowed to move alone or with a not relevant man, then it will be easy for me and more comfortable."* (F14)

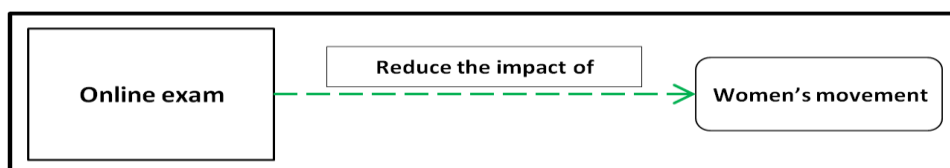


Figure 8-21: The impact of online exam on another dimension

### 8.2.22. Online syllabus

The online syllabus would be another aspect that could influence the ability of women to access and use e-learning freely as it would lead to reduce the impact of one dimension on women's ability (see figure 8-22) as follows:

- **Financial ability of the family**, making the entire e-learning syllabus available online would reinforce family's financial ability as women will not need to pay to get their course materials. This can be seen when some women said:

*"Making all of the study materials available via the internet will enhance my continued use of e-learning in my studies as it was costly for me to get my study materials (books) via postal mail. (...) I usually paid the university first for materials fees and then they sent them to my home by post." (F13)*

*"I prefer to receive the study materials via the internet as it is free and available at any time, when I want to go through them." (F14)*

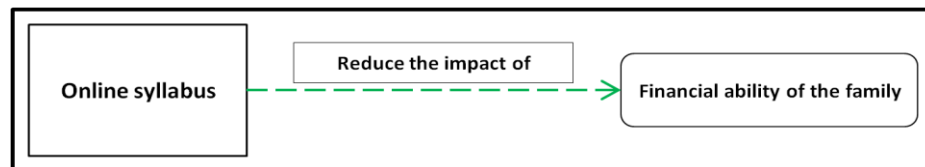


Figure 8-22: The impact of online syllabus on another dimension

### 8.2.23. Free study

The government offering free study via e-learning would be another aspect that could affect the ability of women to access and use e-learning freely as it would lead to reduce the impact of one dimension on women's ability (see figure 8-23), as follows:



- **Tuition fees**, offering women to study via the e-learning method for their higher education, free of charge, will cancel the presence of tuition fees and as a result, women's ability to access and use e-learning would be increased. This can be seen when some women said:

*"Make studying via e-learning free will encourage students to complete their higher education this way." (F1-2)*

*"Making this method of learning free for students, especially women, will facilitate my educational achievement through e-learning." (F5)*

*"Making studying via e-learning free for those who cannot pay its fees will help them to get a chance to complete their higher education." (F19)*

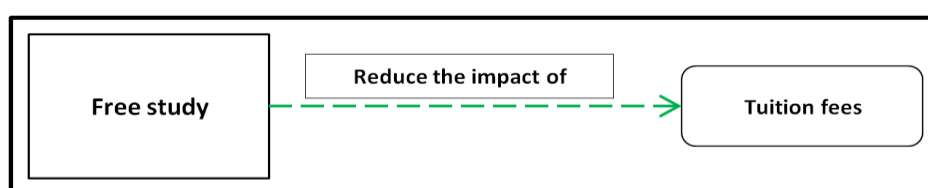


Figure 8-23: The impact of free study on another dimension

#### 8.2.24. Diversity of discipline

Offering different subjects would be another aspect that could affect the ability of women to access and use e-learning freely as it would lead to reduce the impact of one dimension on women's ability (see figure 8-24) as follows:

- **Subject of study**, providing a variety of subjects via e-learning would reinforce women's chances to study their favourite subject. This can be seen when some women said:

*“Providing courses especially for women, as through the traditional way of studying, will facilitate my educational achievement through e-learning.” (F5-7)*

*“Even if I cannot study my favourite subject as it is not offered through e-learning, I prefer to complete my higher studies in a different one instead of not doing it at all.” (F9)*

*“Even if my husband agreed to let me study my dream subject (nurse), I was not able to do so because this subject was not available via e-learning.” (F16)*

*“I think providing a variety of subjects to study via e-learning will enhance my chances to find the best subject that would meet both the demands of my husband and myself to complete my studies as I cannot choose one without my husband’s agreement.” (F20)*

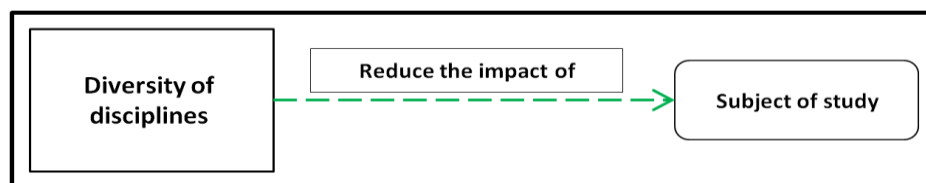


Figure 8-24: The impact of diversity of disciplines on another dimension

### **8.3. Interrelationships between Conversion Factors**

The ability of women to convert the opportunity offered by e-learning into a valuable educational achievement is affected by a number of factors and their relationships with each other (see figure 7-6). These conversion factors will be discussed in this section based on their impact on each other in terms of their role in affecting the ability of Saudi women to access and use e-learning freely, with the support of

collected data, using two different types of relations namely: reinforce and reduce their effect, as follows:

### **8.3.1. Tribal society culture**

This factor with its dimensions, such as male authority and male beliefs, plays a significant role in affecting the ability of women to access and use e-learning freely as it leads to reinforce the impact of some factors on women's ability (see figure 8-25). These are as follows:

- **Cultural use of the internet**, tribal society culture reinforces the existence of the cultural use of the internet that women need to follow in order to be able to access and use e-learning. This can be seen when some women said:  
*"Based on our society's culture I have to follow some rules when I use e-learning." (F12)*  
*"Using the internet is not easy as you think for women in our conservative society because women need to have their guardian's agreement and to watch their behaviour when they do so." (F15)*
- **Family willingness**, tribal society culture reinforces the existence impact of family willingness on women's ability by reducing families' desire to leave their women to access and use e-learning for their higher education as it puts some barriers in front of them to do so. This can be seen when some women said:  
*"My father wants me to use e-learning in my studies but the negative view of the internet in our tribal society makes him hesitated to allow me to do so." (F4)*

*“The desires of my mother and I to complete my study via e-learning are not enough because this decision goes to my guardian, based on our culture.” (F11)*

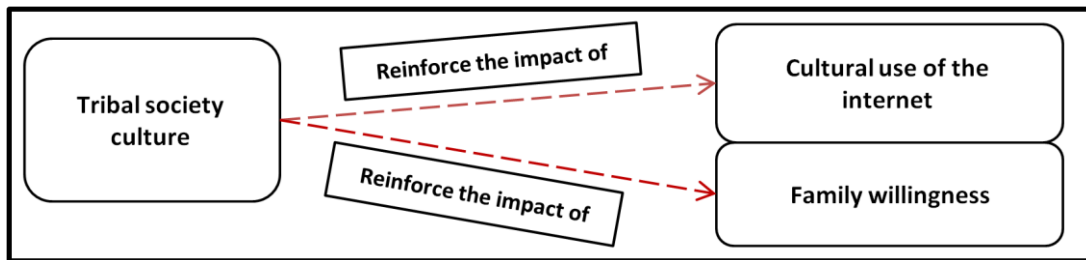


Figure 8-25: The impact of tribal society culture on other factors

### 8.3.2. Government stimulation factors

This factor, with its dimensions such as female lecturers, monthly rewards and legislations, plays a vital role in facilitating the ability of women to access and use e-learning freely as it leads to reduce the impact of some factors on women’s ability (see figure 8-26) as follows:

- **Cultural use of the internet**, government stimulation factors would help women to reduce the culture they need to follow when they want to access and use e-learning by offering some strategies that would enhance women’s chances to access and use e-learning. This can be seen when some women said:  
*“The government should provide female lecturers to facilitate women’s education via e-learning as it would encourage their men to allow them to use it.” (F10)*  
*“The government should issue some legislation to help women use e-learning by reducing male powers.” (F19)*

- **Family willingness**, government stimulation factors would reduce the existence impact of family willingness on women's ability as it reinforces them to leave their women access and use e-learning for their higher education by offering some strategies that would reinforce women's chances to access and use e-learning. This can be seen when some women said:

*"The government should create free training centres for computers and the internet in order to give women basic skills as it will facilitate their learning via e-learning."* F8

*"I think when the government will give monthly rewards to support the families of the females; the use of e-learning will increase."* (14)

*"Reducing the cost of the internet will give me more time to use the internet in my studies."* (F18)

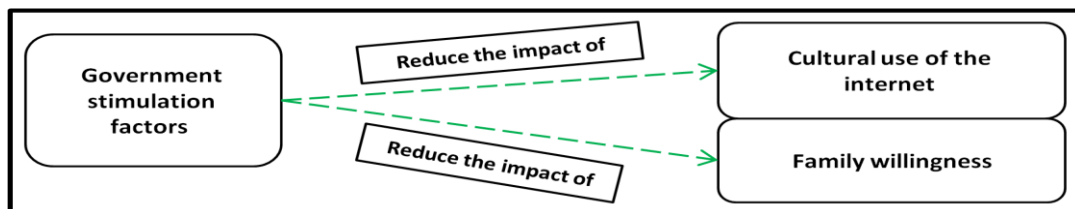


Figure 8-26: The impact of government stimulation factor on other factors

#### 8.4. Summary

Based on the outcomes of data analysis, a theory was formulated which stipulates the ability of Saudi women to access and use e-learning freely. A model was also introduced to illustrate the capability requirements to apply to increase the uptake of e-learning by women in Saudi Arabia. Four factors with thirty-four dimensions were found to affect Saudi women's ability to access and use e-learning freely. This

demonstrated that providing Saudi women an opportunity to complete their higher education via e-learning is not enough without giving them the freedom to access and use it whenever they are able to and want to do so. The relationships between these factors were identified through two different types of relations namely: reinforce and reduce. As a result, it became apparent that male beliefs and authority from tribal society culture factors played a vital role in influencing women's ability to access and use e-learning freely. In the next chapter, these findings will be discussed in terms of the capability approach and the feminist theory perspective, linked to related literatures.

## **9. Discussions of Findings**

Based on the research questions and the analysis of the data that was collected from the field, the researcher developed thirty-four dimensions which were distributed between four main groups of conversion factors, including tribal society culture, cultural use of the internet, family willingness and government stimulation factors. These factors would have an impact on women's ability to convert the opportunity offered by e-learning into a valuable education achievement. Based on that, this chapter will discuss the role these conversion factors and their dimensions played on affecting women's abilities in terms of the capability approach perspective, linked to related literatures.

### **9.1. Theoretical explanation of the findings**

Using e-learning as a supportive vehicle to drive the higher educational journey of Saudi women to the destination they aim to reach, without understanding their ability to access and use it, is exactly as buying those women cars and asking them to drive these cars to fulfil their needs, while they are not able to do so because of the law and culture of the country. Therefore, the problem is not about the availability of e-learning itself but about the capability (freedom) of these women to convert the opportunity offered by e-learning into a valuable educational achievement. In this regard, it is important to know and realise how much power these women have, to access and use e-learning freely, rather than just making it available to them without understanding their ability to achieve, in order to ensure the success of the implementation of e-learning for Saudi women's higher education. According to Sen

(1992; 1999; 2009), the more freedom they have the better their ability to help themselves and achieve what they value and believe in. This is in line with Nussbaum (1999), who emphasised the need of the power to be able to meet your needs.

However, the process that Saudi women have to go through when they want to use e-learning is not providing them with enough freedom, so offering them an opportunity to achieve their goal is not enough without giving them more freedom in the process of achievement as well (Sen, 2009). Thereby, as Saudi women suffer from inequality and the domination of men, their status in their society needs to improve. This can be done by reducing the power imbalance between men and women, through letting them have more roles in society and giving them more freedom to make their decisions based on their own points of view (Hurley et al., 2008; Brym and Lie, 2010; Doumato, 2010). This indicates that the chances for Saudi women to achieve their educational goals via e-learning exist but the process towards this achievement is far away from any sense of freedom.

According to Sen (1999), giving people the chance to be responsible for their lives would strengthen their feeling of freedom as well as enhance their ability to achieve their valuable goals and this can be done by treating them as agents instead of patients. However, Saudi women are treated as patients as they are forced by men to do things that are not their choices, but are their guardian's desires. Therefore, their ability to act and play important roles in their own lives needs to not be ignored by men, so they can get a real space of freedom, which would lead them to making their own personal choices for the life they consider to be valuable to them (Alkire, 2002;



Robeyns, 2005; Sen, 2009). This indicates that there is a lack in the Saudi women's ability to convert the benefits that e-learning offers them into achieving their valuable educational goal, as a result of the shortage of freedom they have to endure. This is in agreement with Doumato (2010), who stated that an improvement in freedom was needed as it is one of the important factors which do affect women's ability to study. This limitation of women's ability is affected by four conversion factors, including tribal society culture, cultural use of the internet, family willingness and government stimulation factors (Sen, 1992; Robeyns, 2005) (see figure 9-1). The impact of these factors and their dimensions on the ability of Saudi women (capability) to convert the opportunity offered by e-learning (resource) into a valuable educational achievement (functioning) will be discussed below.

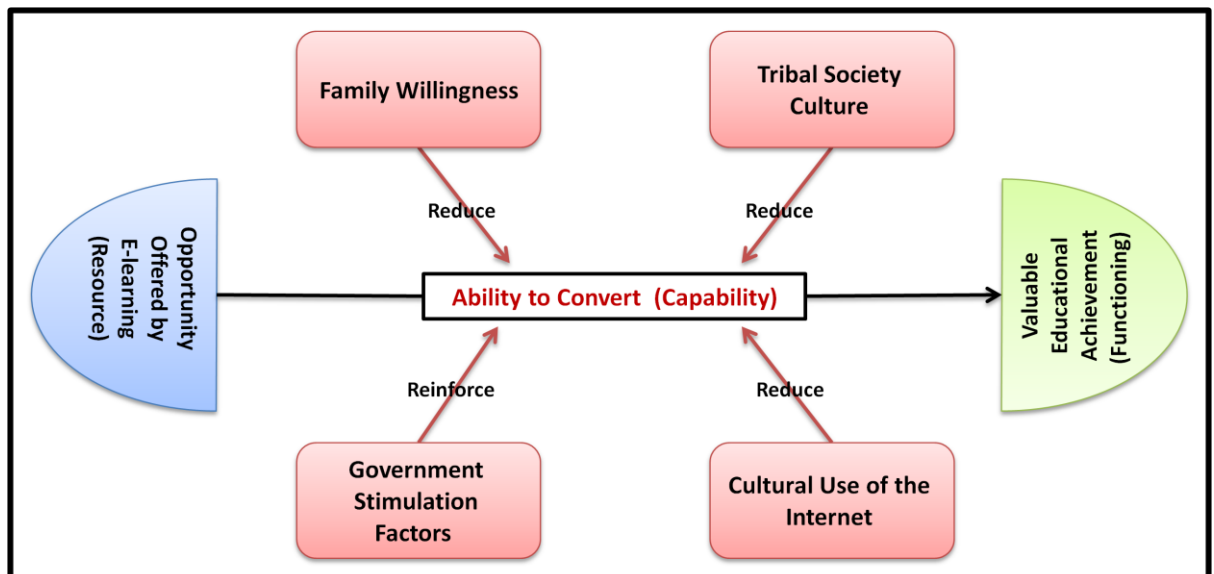


Figure 9-1: The Effect of Conversion Factors on Saudi Women's Ability to Convert the Opportunity Offered by E-learning into a Valuable Educational Achievement

### **9.1.1. Tribal Society Culture**

This study revealed that the tribal society culture factor plays a significant role in reducing Saudi women's ability to convert the opportunity offered by e-learning into a valuable educational achievement (see figure 9-1), as conservative and tribal regions of Saudi society put high values on traditions, more than any other regions in the country. This sort of society makes women's life difficult and creates several barriers against their ability to access higher education freely using the e-learning method, as it relegates the female members of society to being second-class citizens without the freedom to make their own decisions for their own lives (Al Alhareth, 2013). Due to that, the social factors should not be ignored as they play a vital role in women's ability to achieve their goals based on their desires (Sen, 1992). As such, the results of the cultural factors of society lead to some barriers to higher education for Saudi women (AlMunajjed, 2009) and make the adoption of e-learning challenging (Baker et al., 2010). Based on that, it appears that these factors significantly affect the ability of Saudi women to effectively convert the opportunity offered by e-learning into a valuable educational achievement. Despite this impact and the desire by most of the women who were interviewed to change or reduce it, some however believe that the existence of such culture is something good for them. They argue, for example, that even though they must notify their guardian and get his approval before doing anything, it makes them feel comforted and safe, so it must be kept from change. This indicates that not all Saudi women are ready for change, which increases the pressure on the government as culture is a sensitive issue in Saudi society. It is difficult to deal with it, but not impossible to do so. In order to understand the impact of the tribal

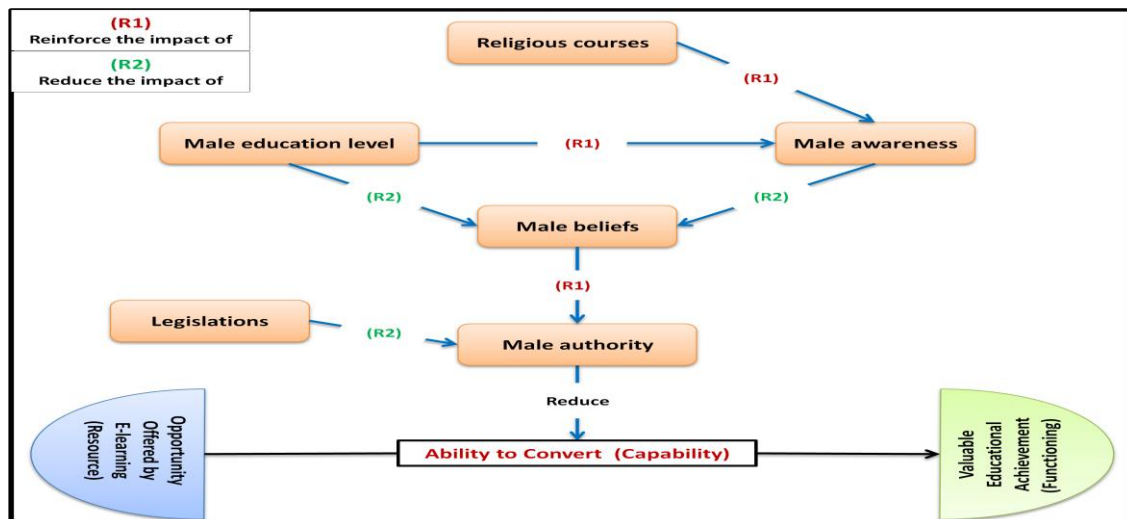
society culture factor on women's ability to convert the opportunity offered by e-learning into a valuable educational achievement and the way it could be used to reduce the influence of some related dimensions, namely: male authority, male beliefs, family honour, women's exclusion, women's movement, hierarchy of power and distrust of women will be discussed below.

#### **9.1.1.1. Male authority**

This study found that the power Saudi men have over their women affects women's ability to access and use e-learning freely, as they control and direct women's life based on their own thoughts. This leads to the inability for women to convert the opportunity offered by e-learning into a valuable educational goal. This is in agreement with Hamdan (2005) who stated that male guardianship strongly impeded on women higher education. In Saudi society, the male, who is the head of the family, makes all the family decisions with or without consideration for the other family members. Whether these decisions infringe on the right or rights of the female members of the family, they are final and unquestionable. Such patriarchal decisions include where, when and how a female member of the family can access and use e-learning. Deaver (1980) agreed with this and stated that men are responsible for women, as is agreed by law and custom. Al-Kahtani et al. (2006) and AlMunajjed (2009) also agreed with this and stated that men in Saudi society have the authority to decide and give their approval to women who want to leave or travel outside their home or city in order to study. A good example for this is that when women have a government scholarship to study abroad, they have to receive the permission of a male who is a close relative

(mahram) to them, such as father, brother or husband, in order to be eligible for it (MoHE, 2010).

Even though the practice of male dominance over women does not exist in the Qur'an, it is present in Saudi society because of the manipulation of its interpretation by men, in order to maintain the continuity of their control over women (Roy, 1992; Mehran, 2003). Therefore, the need to reduce men authority and increase equality between both genders becomes an obvious and essential requirement to improve women's freedom to reach their educational goal via e-learning. Even if it is challenging, it is achievable (ibid). The findings of this study reveal that male power can be minimised to increase the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement and that by the Saudi government issuing regulations to force men to reduce their domination over women as it will lead to enhance equality between them. They also show that increasing men's awareness of women's rights is an alternative way the government can use to decrease male power over women, as it will enhance male beliefs about the women's rights which play a major role in reducing or reinforcing male authority (see figure 9-2).



#### 9.1.1.2. Male beliefs

Male beliefs are also a key aspect and this study found them to affect Saudi women's ability to access and use e-learning freely, as they are the driver engine of male thoughts into reinforcing the idea of their domination over their women. As a result, male beliefs played a vital role into guiding men's behaviour towards women's lives. This view that men hold about women puts women's lives under their men's control, which leads to limit their choices and freedom in many aspects of their life. Zahran and Zahran (2008), as well as Alebaikan (2010), agreed with this and stated that in Arab cultures, females are not allowed to use the internet in their home by a parent (especially their father), because they see it as a tool that presents information not in favour of the norms of society, especially in rural areas. Based on that, enhancing male opinions towards women is now required in order to help women to get their rights and live their lives as they want. The findings of this study reveal that male beliefs can be enhanced to increase the ability of Saudi women to convert the opportunity offered

by e-learning into a valuable educational achievement when the Saudi government works to increase the awareness by males of women's rights, through the implementation of religious courses about women's rights via the religious authority. This way could lead to reinforce males' understanding of women's rights since as a result their unwanted views towards women would be reduced. It also finds that reinforcing males' education levels is another approach that the government can use to enhance male beliefs about women as it will increase male awareness of women's rights (see figure 9-3).

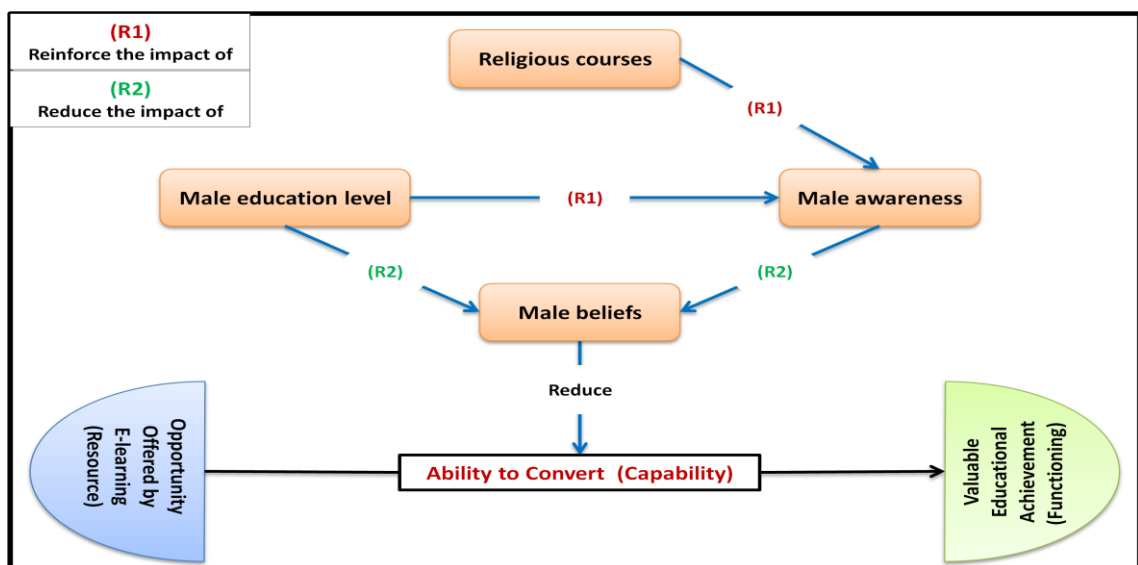


Figure 9-3: The Impact of Male Beliefs on Women's Ability and their Relation with other Dimensions

#### 9.1.1.3. Family honour

This study revealed that family honour is another aspect that affects Saudi women's ability to access and use e-learning freely. Due to the importance of the family honour to all families in Saudi society, the concern of the possibility of losing it was indicated by some participants as it was related to them directly. Soffan (1980) and Hamdan

(2005) agreed with this and stated that in Saudi society, family honour is directly related to women's chastity and women have very strong beliefs about this because of their tribal roots. Metz (1992) also agreed with this and stated that the chastity of women in Saudi society was not only attached to family honour but based on religious norms as well. In tribal society, the value of the family reputation is high as families believe in its impact on their position relating to other tribal society, so they always concentrate on it and warn their females to watch their behaviour. Based on that is the strict reaction men will have towards their women who do something that might affect the reputation of their family, a good example of that when a father killed his daughter after she made contact with a man via Facebook (McElroy, 2008). In addition, family honour is associated with males' beliefs as they do not trust their women and put rules on their behaviour to avoid any causes that could lead to losing their reputation. The findings of this study reveal that concern for the family honour can be reduced when the Saudi government focuses on enhancing male beliefs towards women by giving them religious courses to concentrate on increasing their awareness of women's rights, as it will help to minimise males' concerns about their family honour. By doing so, the possible influence of the concern within families about their honour will be reduced and as a result of that, Saudi women's chances to convert the opportunity offered by e-learning into a valuable educational achievement will be increased (see figure 9-4).

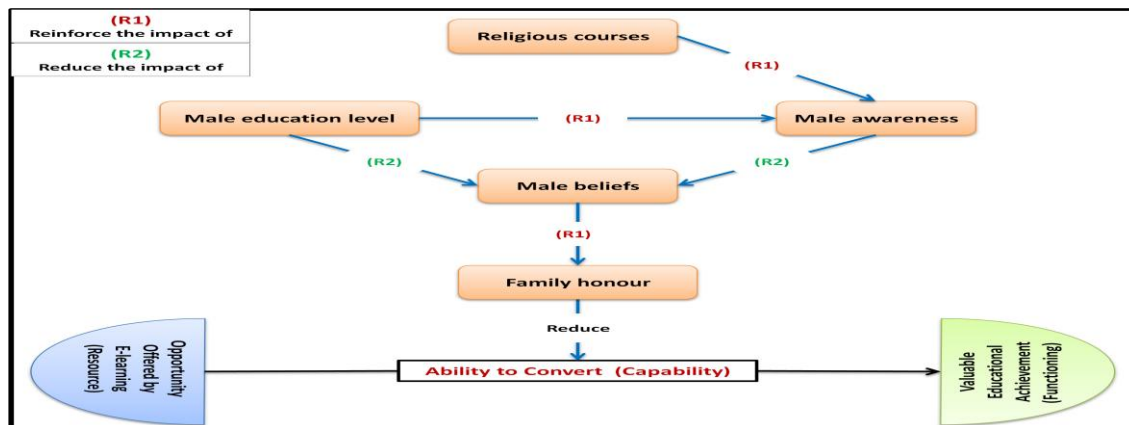


Figure 9-4: The Impact of Family Honour on Women's Ability and its Relation with other Dimensions

#### 9.1.1.4. Hierarchy of power

This study revealed that hierarchy of power is another aspect that affects Saudi women's ability to access and use e-learning freely. The power organisation within Saudi tribal families gives the priority to men over women. In other words, the power is distributed between men, from the oldest member of the Saudi family to the youngest one without any consideration for the women's presence. This process will increase inequality between the genders and reinforce women's exclusion in such society. In order to enhance women's ability to convert the opportunity offered by e-learning into a valuable educational achievement, the findings of this study show that the hierarchy of power can be reduced by reinforcing male beliefs towards women's rights of education, as it is the main cause of such process of power within the family. By doing so, the women's status within the family will be enhanced and their sense of freedom will be increased, plus, as a result, their ability will be improved (see figure 9-5).



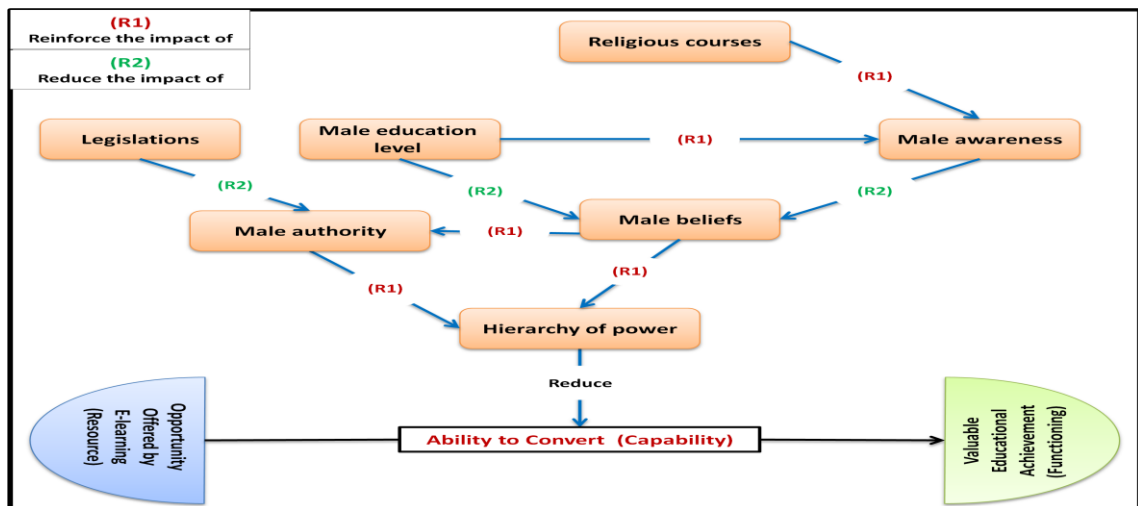
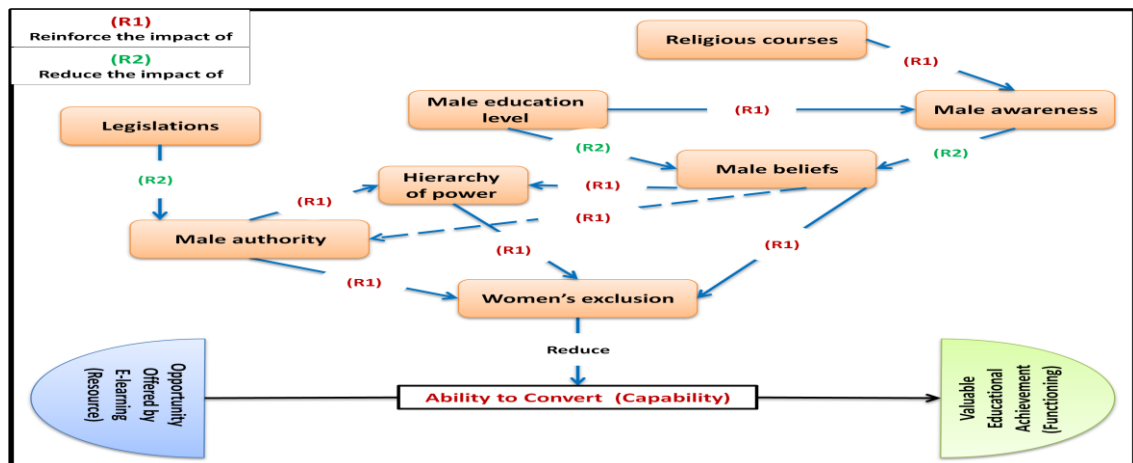


Figure 9-5: The Impact of Hierarch of Power on Women’s Ability and its Relation with other Dimensions

#### 9.1.1.5. Women’s exclusion

This study revealed that women’s exclusion is another aspect that affects Saudi women’s ability to access and use e-learning freely, as they cannot choose or make decisions about any valuable thing for themselves such as completing their higher education via e-learning. The structure of Saudi society reinforces this way as it is built to ignore women’s existence by dealing with them as second-class citizens (Al Alhareth, 2013) and giving men all the rights, including being responsible for their women’s lives. This is in line with Evans (2011), who asserts that women have been continuously treated as lower citizens and as inferiors (Roy, 1992). In the conservative and tribal society, Saudi women are excluded by their men who do not allow them to take part in planning their own lives based on their desires or thoughts, as they are respected more than women and have the power to be responsible for their women. This exclusion of women, not only because of the nature of Saudi society, but also because the Saudi government takes part in developing it by issuing regulations that

support this exclusion, such as women not being allowed to travel without their guardian's approval. Sen (2000) identifies this type of exclusion as active and passive exclusions since the government shares the social culture that produces it. This exercise should not however occur as it does not exist in the Holy Book of Islam, because women historically played several roles to serve the religious communities in diverse capacities, as leaders, health care providers and teachers as well as in the military (Doumato, 2000). Therefore, women should play vital roles in structuring their own life and be included in deciding which things are valuable to them. This is in line with Nussbaum's (1999) view about empowering women to be and do certain things that are more valuable in society. Supporting this view, Sen (1999) said that the exclusion of women from taking their own decisions about the life they want to live would be a way of increasing their lack of freedom and prevent them from being responsible for themselves. The findings of this study show that the exclusion of women in Saudi society can be reduced by reinforcing male beliefs in women's rights as well as by reducing the male authority and hierarchy of power as they are the main causes of the lack of women's inclusion. By doing so, their freedom will be enhanced and as a result their ability to convert the opportunity offered by e-learning into a valuable educational achievement will be increased (see figure 9-6).



#### 9.1.1.6. *Distrust of women*

Distrust of women among men is another aspect this study found does affect Saudi women's ability to access and use e-learning freely. In conservative and tribal societies, women suffer from the rules of behaviour they have to follow when they want to do anything even if these things are related to their lives, because the male beliefs towards women and the fact that they do not trust them. This opinion leads to put women under the monitoring of their men at all times and as a result their freedom and ability to access and use e-learning are limited. This is in agreement with Al Alhareth (2013) who stated that the unwanted male beliefs about females using the internet limit women's ability to access and use e-learning. Thereby, reinforcing men's trust in women becomes necessary to increase women's ability to convert the opportunity offered by e-learning into a valuable educational achievement which can be done based on the findings of this study by enhancing male beliefs towards women

as that will lead to minimise family monitoring and women's rules of behaviour (see figure 9-7).

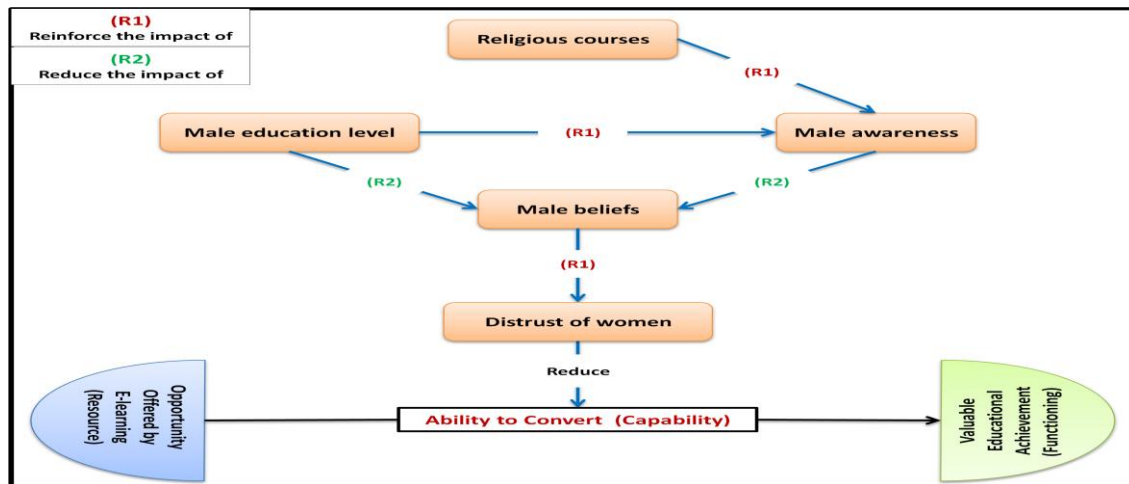


Figure 9-7: The Impact of Distrust of women on Women's Ability and its Relation with other Dimensions

#### 9.1.1.7. Women's movement

Even though the e-learning innovation could help female students to overcome the mobility restrictions (Al Muhaisin and Shawat, 2008), this study revealed that Saudi women's ability to access and use e-learning freely is affected by women's movement, because they are indeed unable to move freely to the exam centre that universities especially prepare for e-learning students and because they need to have their men's approval as well as their help to transport them from and to the centre. This is because it is against the Saudi tribal culture for females to move far away from their homes alone or without their guardian's agreement, but it is not against the Holy Book of Islam (Roy, 1992). This limits the opportunities of Saudi women to pursue higher education in colleges situated far from home and via e-learning when it requires such movement. Al-Kahtani et al. (2006) agreed with this and stated that a particular

constraint is the cultural or religious dictum about the fact that a woman, regardless of her age, must at all times be accompanied by a male guardian whenever she leaves their home or travels outside the confines of where they live. Sabbagh (1996) also agreed with this and stated that women's mobility in Saudi Arabia was very restricted due to their culture, which could affect their higher education opportunities. For example, if the female education requires her to live away from home, most families will reject it, so a women's freedom of movement is very limited. The findings of this study reveal that the impact of women's movement restriction can be reduced when the Saudi government encourages universities to provide e-learning exams via the internet, as it will reinforce the chances of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement. However, more important than offering exams online is to enhance women's freedom to achieve (Sen, 2009), by minimising the impact of male authority and male beliefs on women in tribal societies (see figure 9-8).

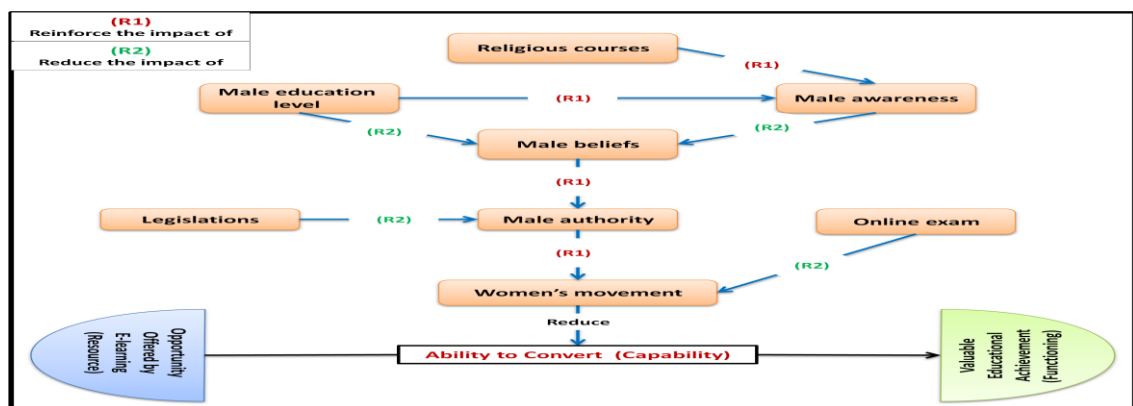


Figure 9-8: The Impact of Women's Movement on Women's Ability and its Relation with other Dimensions

### **9.1.2. Cultural Use of the Internet**

Cultural use of the internet is another key factor found in the data that would affect Saudi women's ability to convert the opportunity offered by e-learning into a valuable educational achievement (see figure 9-1), as it limits women's ability to access and use e-learning freely. This impact is linked to effects of tribal society culture factor, especially male authority, male beliefs and family honour, as families in tribal society puts some conditions before allowing women the ability to access and use e-learning. Examples of this are that they have to get their male's approval before accessing and using the internet as well as doing that under their male's supervision, which is based on the male beliefs about women's rights. Al-Wehaibi et al. (2008) agreed with this and stated that using the internet in Saudi Arabia can be impacted by culture and religious beliefs, as seen in the result of a large scale research project conducted in Saudi Arabia. Al-Kahtani et al. (2006) also agreed with this in their investigation about the perceptions of Saudi female lecturers using the internet, which stated that some learning disciplines see the internet as a danger to societal norms because of its unethical content. This view is in line with the result of the study conducted by Mohamed et al. (2008) who stated that families in Saudi society see any type of virtual interaction as a threat to society. In order to understand the impact of the cultural use of the internet factor on women's ability to convert the opportunity offered by e-learning into a valuable educational achievement and the way it could be used to reduce the influence of some related dimensions, these dimensions, namely: period of use, environment of use, family monitoring and rules of women's behaviour, will be discussed below.

#### **9.1.2.1. *Period of use***

This study revealed that period of use is another culture that affects Saudi women's ability to access and use e-learning freely, as it limits the time women can spend on the internet. The inability of women to use the internet for long periods of time or at the time they want to is mainly affected by the authority of men as they push women to use the internet for short period and at specific times only. This limitation is not only affected by the power of males, but some personal and family factors also play an important role in this restriction. The lack of finance ability of the family is one possible factor playing a role in women's abilities, as it leads to increase the family's fear of raising their monthly expenses while they are not able to face that. The women's health condition might also be another affecting factor as it impacts on women's ability to use the internet and the computer for a long period of time. Women's responsibilities play a role in limiting their period of use on the internet as well since they need to find the right time to use the internet to study because their responsibilities take priority over their studies. Based on that, it becomes necessary to increase women's freedom to use the internet via enhancing their time of use as it would reinforce their ability to convert the opportunity offered by e-learning into a valuable educational achievement (Sen, 2009).

In order to do so, this study found that the impact of the period of use of the internet on women's ability can be reduced through government support by focusing on firstly minimising the impact of male authority through putting clear regulations with aim to decrease men's domination over their women, as well as to increase men's awareness of their women's rights via the implementation of religious courses; secondly reducing

the impact of the priority of women's responsibilities towards their family and the women's health condition factors by increasing male support of women; thirdly reducing the impact of the financial ability of the family by reinforcing their finance ability through reducing the cost of the internet, providing a study syllabus online and giving female students a monthly amount of money as for the traditional type of study; fourthly by improving the speed of internet connection services would support women in overcoming the impact of the period of use of the internet aspect; by finally enhancing women's skills in using the technology by offering them some training courses about using internet and e-learning. By doing so, women's ability to convert the opportunity offered by e-learning into a valuable educational achievement would be improved when they will be able to access and use the internet without time limitation (see figure 9-9).

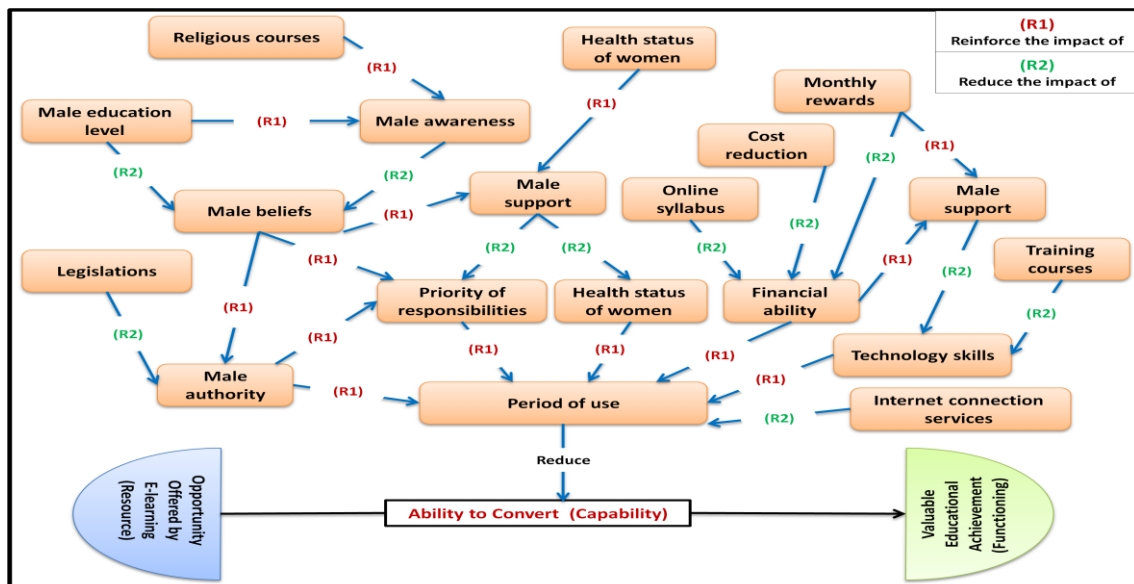


Figure 9-9: The Impact of Period of Use on Women's Ability and its Relation with other Dimensions



#### **9.1.2.2. Environment of use**

This study found that the environment of use is another point of culture that affects Saudi women's ability to access and use e-learning freely as it limits the places that women can use the internet at. In a conservative and tribal society, women suffer from not being allowed to access and use the internet freely as their men put some obstacles in front of them, such as not letting them use it in a closed place or a private room away from their family's eyes because they do not trust their women. This practice is common in Saudi society although it is not in line with the Holy Book (Qur'an) which emphasises the respect of human privacy for all by saying that *"do not enter houses other than your own until you ascertain you are welcome and greeted by their inhabitants. That is best for you; perhaps you will be reminded"* (Holy Qur'an, 24:27).

The priority of women's responsibilities also affects the place of use of the internet as men put their family's responsibilities over their women's desire to study, so they have to study in presence of their family and children. The lack of suitable environment to access and use the internet is not only because of the social culture but it also is caused by the internet coverage. If all places in their home are not covered, they have to find and use those places that have strong reception of the internet. However, in spite of this limitation in terms of appropriate locations, Saudi women try to adapt to this situation as they are keen to complete their studies and do not want to lose such a chance to do so.

The findings of this study reveal that the impact of the environment of use of the internet on women's ability can be reduced through the increasing male awareness of women's rights, by giving them religious courses about women's rights as well as issuing some legislation that would reduce the male authority over their women, as they determine where women can access and use the internet. By reducing the impact of male beliefs and authority, the impact of women's priority of responsibility can be reduced too. Enhancing the coverage of the internet connection services would reinforce the environment of internet use. By doing so, women's ability to convert the opportunity offered by e-learning into a valuable educational achievement would be improved as they will be able to access and use the internet without environmental limitations (see figure 9-10).

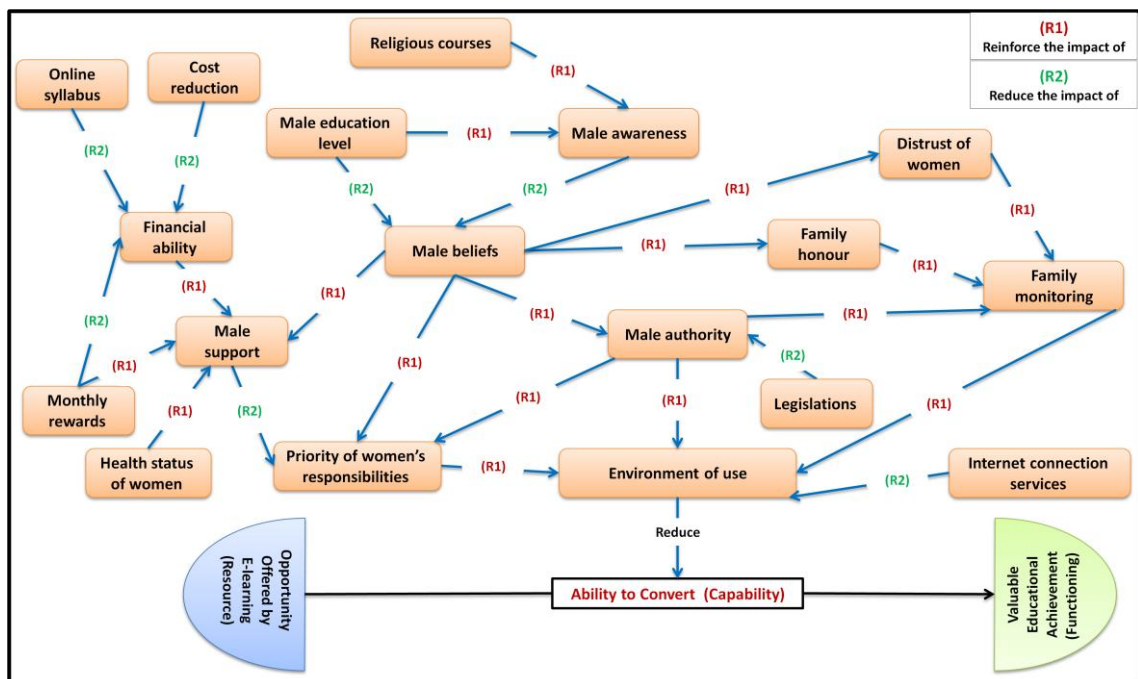


Figure 9-10: The Impact of Environment of Use on Women's Ability and its Relation with other Dimensions

#### **9.1.2.3. Family monitoring**

This study revealed that family monitoring is another culture that affects Saudi women's ability to access and use e-learning freely, as it reduces women's ability to use the internet. The culture of conservative and tribal society forces this practice as it pushes men to supervise their women because of their lack of trust in women and their fear of losing their family reputation as it is directly linked to their women's behaviour. Putting women under monitoring by their family, when they want to access the internet, makes it hard for them to study via e-learning as it is difficult to study under the supervision of others. This practice leads women to lose their privacy. This is in agreement with Al Alhareth (2013), who stated that women's use of the internet benefitted from no privacy because a male member of the family should always supervise and approved it. However, in spite of this culture of Saudi women's monitoring when they use the internet, they accept it even if it is unfair because they do not want to lose this chance to complete their higher education.

It became obvious that the culture from the conservative and tribal society reduces Saudi women's freedom to access and use e-learning as it is not offering women the appropriate privacy to do so, which is not something that can be ignored (Sen, 2009). Thereby, the need to increase the chances of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement by minimising the culture of women's monitoring has become essential. The findings of this study reveal that the impact of the family monitoring of their women when they use the internet for e-learning on women's ability can be reduced through minimising the male authority over their women and the concern of the family towards their honour as well

as increasing male's trust in women. This can be done by reinforcing male beliefs on women's rights via the implementation of religious courses as they would lead to increase male awareness. In addition, providing female lecturers would reduce the impact of family monitoring as it would increase trust in women and reduce family honour concerns. By doing so, women's ability to convert the opportunity offered by e-learning into a valuable educational achievement would be improved as they could access and use the internet without monitoring from their family (see figure 9-11).

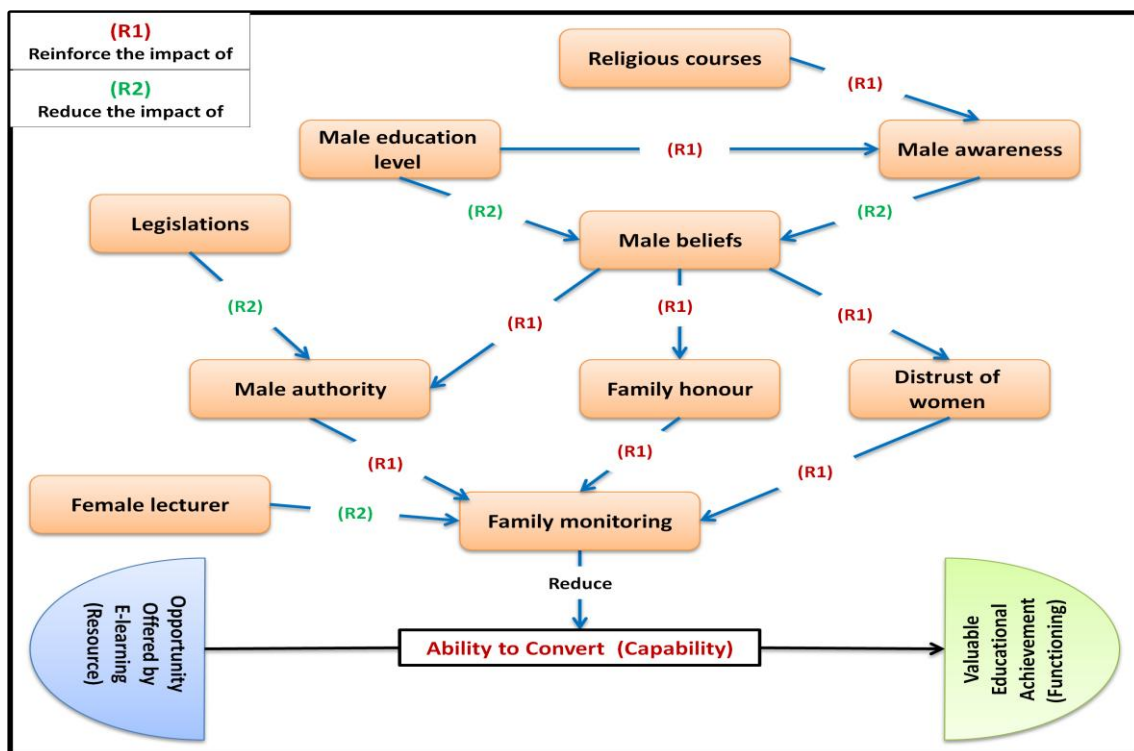


Figure 9-11: The Impact of Family Monitoring on Women's Ability and its Relation with other Dimensions

#### 9.1.2.4. Rules of women's behaviour

This study found that the rules of women's behaviour are another culture affecting women's ability to access and use e-learning freely, as women have to follow strict rules of behaviour that are in the way of their ability to access and use the internet to

study. In Saudi society, women are not allowed to make any contact with strange men or to mix with the other gender even via the internet. Supporting this view, Al Alhareth (2013) stated that mixing genders was a very sensitive and controversial issue in Saudi society because the mixing of genders between women and non-relative men is not allowed whenever in their lives. This, arguably, increased the chances of females to engage in promiscuous behaviour while mingling freely with the opposite gender. This is in line with Al-Fahad (2010) who stated that women in Saudi society were only allowed to live a private life without mixing, in any way, with men other than their relatives. Al-Harthi (2005) and Mohamed et al. (2008) agreed with this and stated that in the Arab culture, women observe certain requirements and restrictions in their relationships with men. This limitation and the requirement to avoid such contact in the culture have had an impact on their social relationships in that it might limit their access to education. Baki (2004) and Al-Kahtani et al. (2006) also agreed with this and stated that the isolation of the genders is required in almost all situations in Saudi society including virtual environments, even if it did not exist in the Qur'an.

The findings of this study reveal that rules of women's behaviour can be reduced when the Saudi government provides female lecturers to teach women via e-learning as it reduces the women's rules of behaviour that they have to follow when they want to use e-learning for their studies (see figure 67). By doing so, the possible influence of the concern within families about their honour will be reduced and as a result women's chances to access and use e-learning freely would be increased. However, the most important is offering female lecturers to enhance women's freedom to achieve (Sen, 2009), as it would minimise the impact of male authority and beliefs

towards women in tribal societies as these lead to reinforce distrust of women and family honour concerns (see figure 9-12).

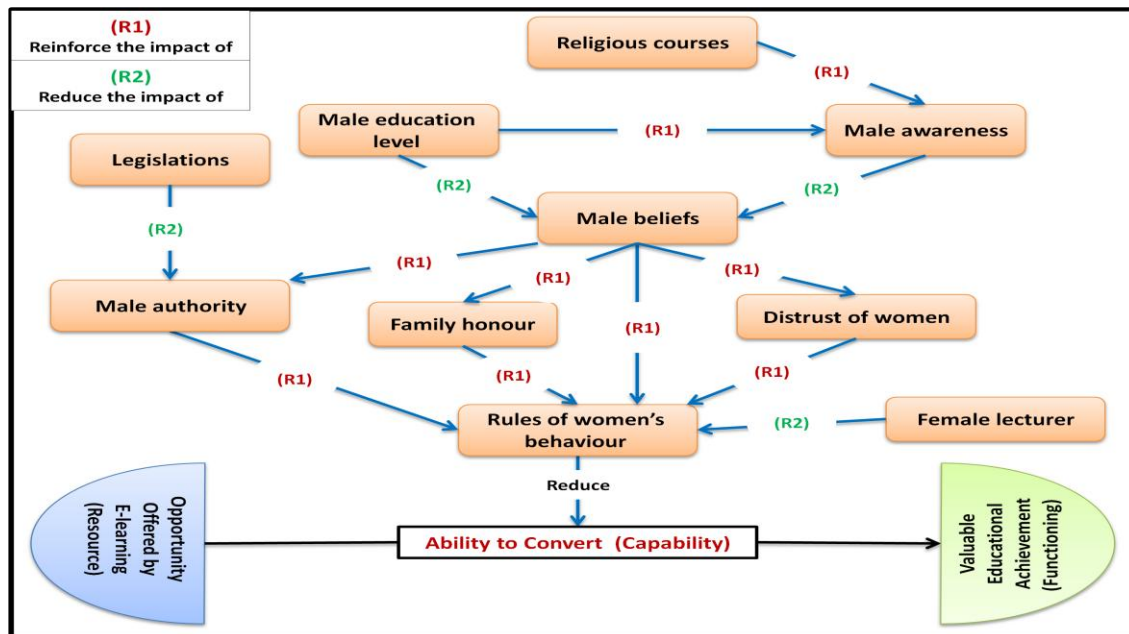


Figure 9-12: The Impact of Rules of Women's Behaviour on Women's Ability and their Relation with other Dimensions

### 9.1.3. Family Willingness

Family willingness is another vital factor found in the data that would affect Saudi women's ability to convert the opportunity offered by e-learning into a valuable educational achievement (see figure 9-1), as it limits women's ability to access and use e-learning freely. The main aspect that limited access to and use by Saudi woman of e-learning is the male authority in tribal society as it plays a significant role in the desire of the family to support their women to use e-learning in their higher education. This is in agreement with Al Alhareth (2013) who stated that the use of e-learning to enhance women opportunities for higher education is dependent on the discretion of the male head of the family. Al-Hunaiyyan et al. (2008) agreed with this and stated that Arab

countries are wealthy cultures with strong religious beliefs, which is very important to focus on when designing an e-learning programme so it can be successful. Milani (2008) also agreed with this and stated that to design an e-learning programme, especially for women in Saudi Arabia, the cultural and religious norms of society should be considered to ensure success as it would lead to enhance women's access to higher education. The impact of male authority is not the only aspect that affects the family willingness to reinforce their female's use of e-learning, other aspects would affect their desire such as their financial ability, women's health status and priority of responsibility. In order to understand the impact of the family willingness factor on women's ability to convert the opportunity offered by e-learning into a valuable educational achievement and the way it could be used to reduce the influence of some related dimensions, namely: financial ability, health status of women, device and internet availabilities, priority of women's responsibility, male support, subject of study, tuition fees, technology skills, male awareness and male education level, they will be discussed below.

#### **9.1.3.1. *Financial ability of the family***

This study revealed that the financial ability of the family is another aspect that affects Saudi women's ability to access and use e-learning freely as it reduces the family's desire to allow their females to use e-learning for their higher education because of its impacts on the family's ability to provide a new computer and pay for the internet subscription as well as their ability to pay the tuition fees of the e-learning method. This is in agreement with the study conducted by the Saudi Communication and Information Technology Commission (CITC) (2009) about Computer and Internet Usage

in the Kingdom of Saudi Arabia from 2007 to 2009, which indicated that the ability of Saudi residents to use the internet is influenced by its affordability.

However, this study found that this impact can be minimised through an increase of the financial ability of the family. This can be done by the government reducing the cost of internet subscriptions and providing free modern devices or at least discounted prices and also granting students a monthly amount as with the traditional method of learning. In addition, the government should cancel e-learning tuition fees or at least reduce them as well as that of curriculum materials, which should be offered via the internet. Male support would also play a helpful role in reducing the impact of the financial ability of the family factor on the desire of the family as men are considered as being the pillars of family structures in tribal society. By doing so, the financial inability of families will be reduced and as a result women's chances to access and use e-learning will be increased (see figure 9-13).

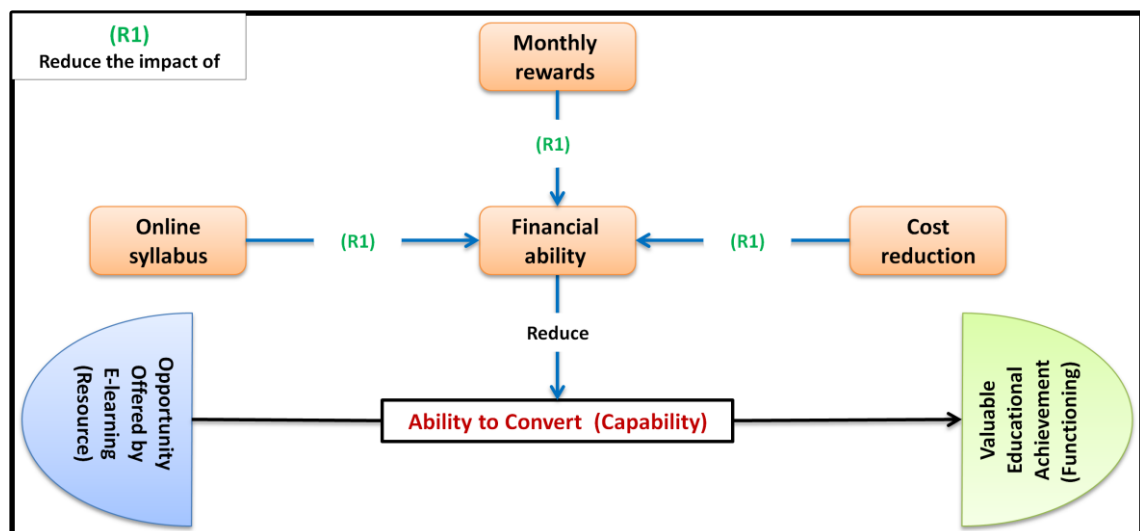


Figure 9-13: The Impact of Financial Ability of the Family on Women's Ability and its Relation with other Dimensions



### 9.1.3.2. Health status of women

This study found that the health status of women is another aspect that affects Saudi women's ability to access and use e-learning freely as it reduces the time that they can spend using e-learning. As men are the pillars of tribal society families, their support would help women by reducing the impact of their health problems. For example, they can provide them with some facilities or equipment such as buying a computer with a large screen if they are suffering from eye problems or purchase a good quality chair if they are suffering from back pain. This practice shows that men can show compassion and that we can develop it for the benefit of women. This study revealed that male desire to support women can be reinforced to overcome the impact of their health problems when male beliefs of women's rights increases and also when the government gives women monthly rewards to enhance their family's financial ability. By doing so, the impact of women's health problems would be reduced and as a result women's chances to access and use e-learning would be increased (see figure 9-14).

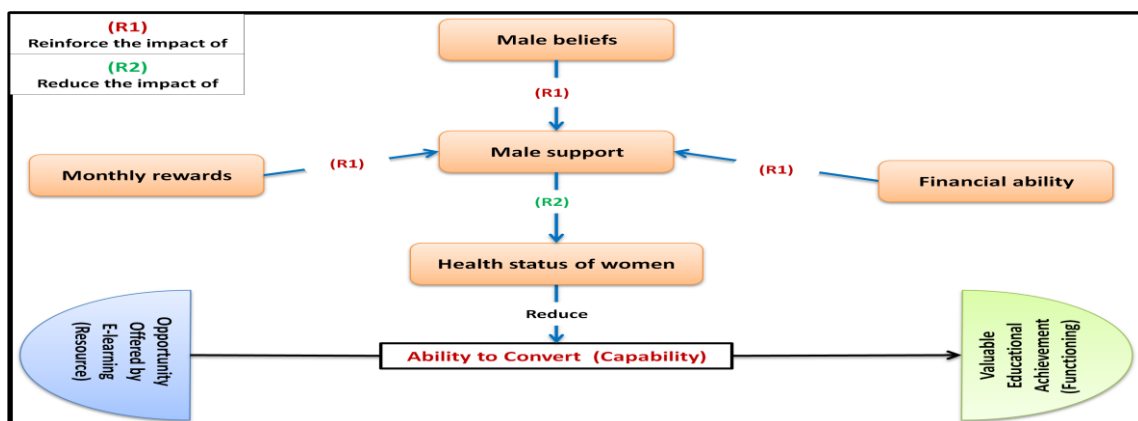


Figure 9-14: The Impact of Health Status of Women on Women's Ability and its Relation with other Dimensions

#### **9.1.3.3.    *Device availability***

Even though the availability of a device is an essential requirement for all e-learning users, to enable them to get one, this study revealed that it is not easy for Saudi women to get a computer. Therefore, device availability is another aspect that would affect their ability to access and use e-learning freely. In tribal society, women face difficulties having their own computers because of the process they have to follow to get it. For example, they cannot buy their own computer whenever they want it and they have to get their guardian's approval first. This indicates that women's ability to get a computer falls mainly under the male authority. However, male support and the financial ability of the family also affect women's ability to get computer of good quality. The findings of this study demonstrate that it is possible to reduce the impact of the difficult availability of an e-learning device by reinforcing male support to provide a good quality device for women, through reducing the cost of computers and enhancing the family's financial ability by giving female students monthly rewards as well as providing the e-learning syllabus online. By doing so, the device availability impact would be reduced and as a result women's chances to access and use e-learning will be improved (see figure 9-15). However, in order to reinforce women's ability to get computer, it is first essential to reduce the male authority, as it significantly affects women's ability to get the technology they need, more than the financial ability of the family and male support. The improvement of women's freedom to access and use e-learning is indeed an important effort that should be made rather than simply making computer available at home (Sen, 1999; 2009).

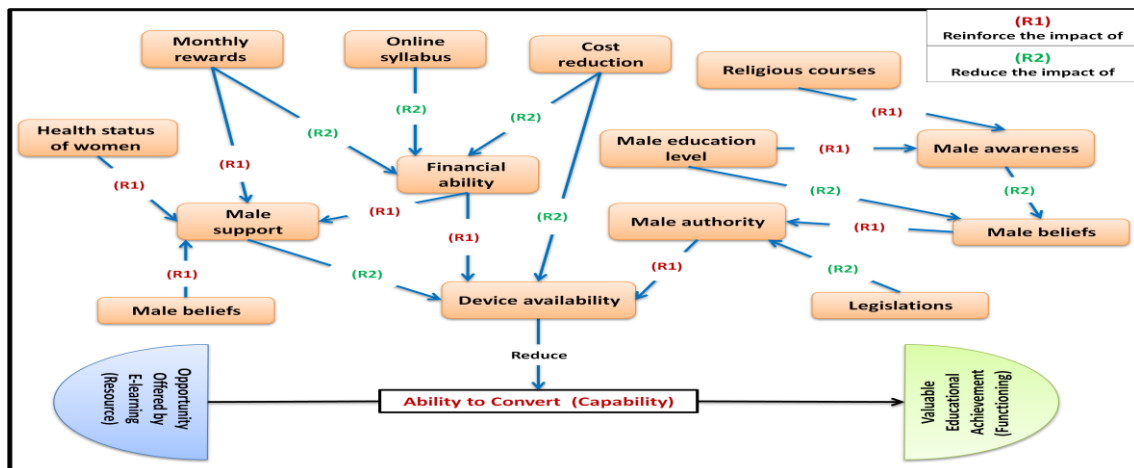


Figure 9-15: The Impact of Device Availability on Women's Ability and its Relation with other Dimensions

#### 9.1.3.4. Internet availability

Logically, the availability of the internet is a fundamental requirement to use e-learning as it is not possible to get access to e-learning without an internet subscription. This study however found that making the internet available to Saudi women's homes is not an easy task for them, as they cannot obtain it without their male approval. Therefore, internet availability is another aspect that would affect Saudi women's ability to access and use e-learning freely. In Saudi society, getting the internet at home is depending on the approval of the family. Supporting this view, the study conducted by the Saudi Communication and Information Technology Commission (CITC) (2009) about Computer and Internet Usage in the Kingdom of Saudi Arabia from 2007 to 2009, indicated that the ability of Saudi residents to use the internet is influenced by their family not allowing them to have an internet connection at home. This indicates that the ability of Saudi women to access and use e-learning is limited. However, male support and the financial ability of the family also affect

women's ability to get an internet subscription at home. The findings of this study show that the impact of the difficult availability of the internet can be reduced, by firstly working to officially reduce the domination of men over their women through some regulations and informally via offering them religious courses to increase their awareness of women's rights, secondly increasing the male support to provide the internet in their homes through reducing the cost of the internet subscription and enhancing the family's financial ability by giving female students monthly rewards as well as providing the e-learning syllabus online. By doing so, the impact of internet availability would be reduced and as a result women's chances to access and use e-learning would be improved (see figure 9-16). However, enhancing women's freedom to access and use e-learning is an important effort that should be made rather than to simply make the internet available at home (Sen, 1999; 2009).

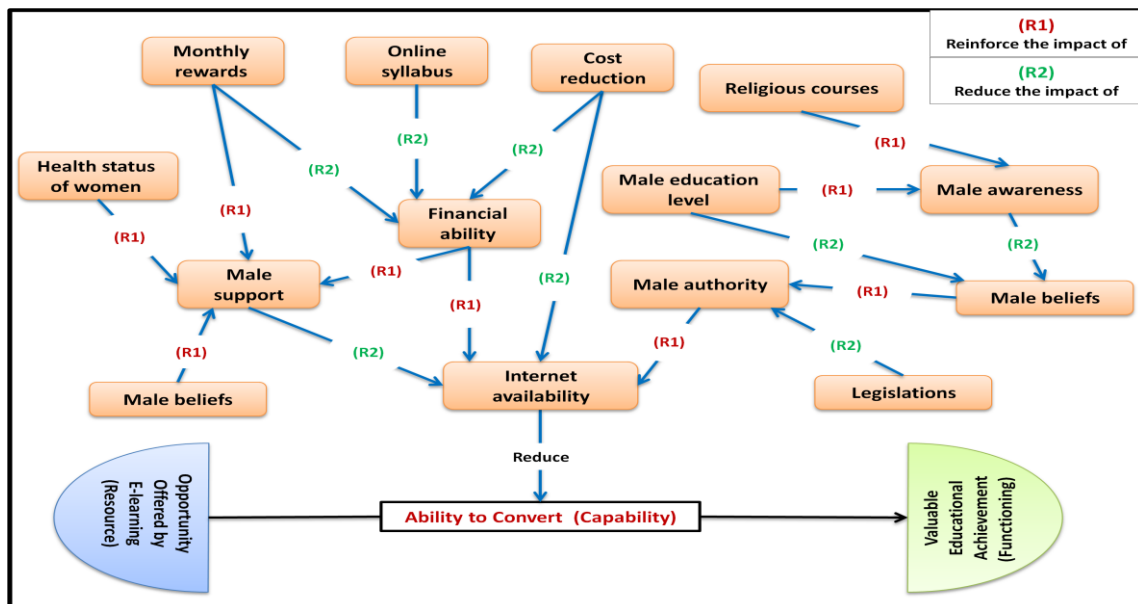


Figure 9-16: The Impact of Internet Availability on Women's Ability and its Relation with other Dimensions

#### **9.1.3.5.    *Priority of women's responsibilities***

Al Muhaisin and Shawat (2008) stated that online learning methods can help Saudi women to uphold family responsibilities whilst achieving an education, this study however revealed that women's responsibilities towards their families take precedent over their studies and that is another aspect that would affect Saudi women's ability to access and use e-learning, as it helps to reduce their chances of using e-learning freely. In Saudi society, the main role women are required to play is to respond to their husband's and children's requirements over their own needs, based on the culture of male beliefs and authority towards women, as they reinforce the idea that women need to consider this role to be their main mission in this life and to make it their priority, over their own life. This practice of women's priority of responsibility is not only based on the culture of society but it comes from women themselves. This is in line with Aljabre's (2012) views, who stated that women in Saudi society valued caring for their families more than education. As a result, their time and environment of access as well as use of e-learning are limited. However, this type of culture can be reduced and based on the findings of this study, it will be when the government will issue some legislation to minimise male authority, as well as to implement religious courses via the religious authority to increase male awareness of women's rights. In addition, offering female students monthly rewards is another way to reduce the priority of women's responsibilities as it would be useful to encourage male support to help women in their studies by playing their part in the responsibilities towards the family. By doing so, the impact of priority of women's responsibilities aspect would be

reduced and as a result women's chances to access and use e-learning will be increased (see figure 9-17).

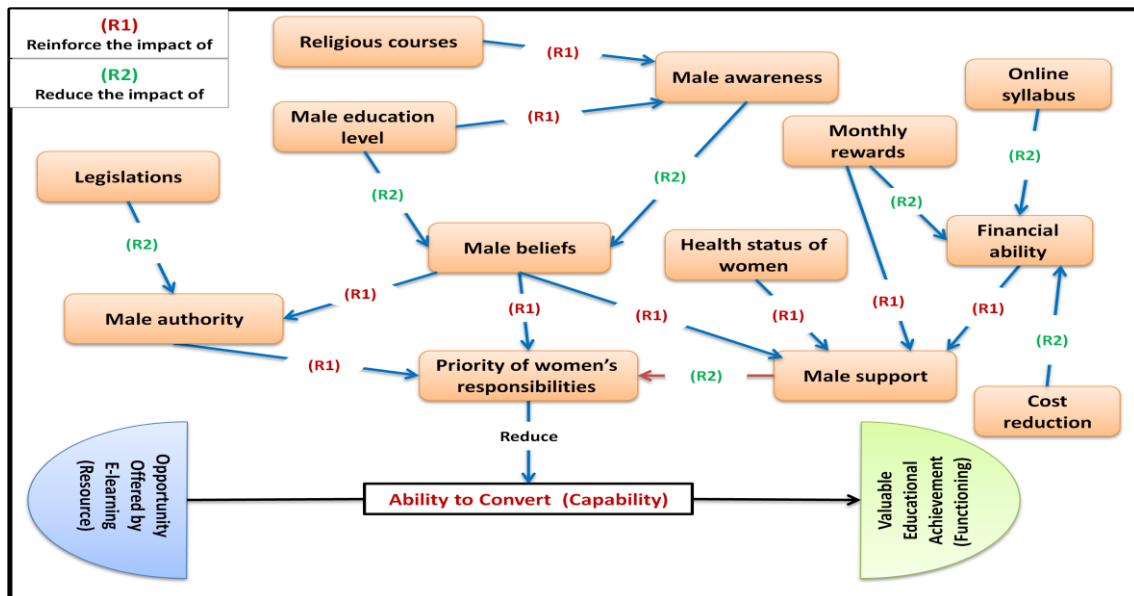


Figure 9-17: The Impact of Priority of Women's Responsibilities on Women's Ability and its Relation with other Dimensions

#### 9.1.3.6. Technology skills

Computer skills are needed to use the internet, especially for those who want to learn through e-learning (Al Alhareth, 2013). This study is in line with that, as it found that technology skills are another aspect that affects Saudi women's ability to access and use e-learning freely. However, women have to deal with a computer as part of their studies, such as to access the course materials on the internet, but because of their lack of these skills, their use of e-learning will be affected, as it will not help Saudi women to face the limitation of time they have to be aware of. Based on the fact that they need their guardian's agreement to use e-learning as well, it will increase their fear of doing something that could affect their access and use e-learning. This is in

agreement with the Saudi Communication and Information Technology Commission study (2009), which indicated that the ability of Saudi residents to use of the internet is influenced by their knowledge on how to use it. Al-Fahad (2010) agreed with this and stated that it would not be possible for the students to succeed without these skills. Wong (2007) agreed with this problem by stating that the ability of e-learning learners to use internet environment was restricted by their ICT skills. Therefore, reinforcing Saudi women's knowledge of the use of technology has become essential to help them to reduce the impact of their technology skills on accessing and using e-learning. This can be helped, based on the findings of this study, through government support, by creating training courses to enhance women's computer, internet and e-learning skills. In addition, women need their men's support to help them defeat their lack of technology skills and offer some knowledge on technology use, as well to try reducing their rules of use. By doing so, the impact of technology skills aspect would be reduced and as a result, women's chances to access and use e-learning will be increased (see figure 9-18).

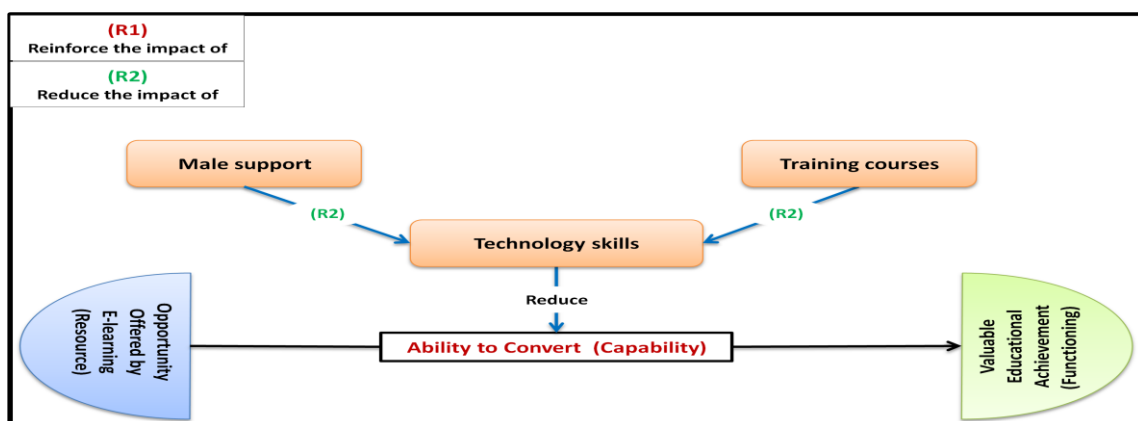


Figure 9-18: The Impact of Technology Skills on Women's Ability and their Relation with other Dimensions

#### **9.1.3.7.    *Subject of study***

This study found that subject of study is another aspect that affects Saudi women's ability to access and use e-learning because of the limitation of study subject they face from their guardians who force them to study their chosen subject as a condition of their agreement to let them complete their studies. This practice would reduce their choice from studying their favourite subject independently. For example, women are not allowed to study any discipline could lead to work in a mixed environment with men. Therefore, their choices are limited to educational disciplines as it is acceptable in a conservative society to offer them a private work environment. This indicates that women in Saudi society are not able to make their own decisions regarding their studies because of the male domination. Therefore, the findings of this study show that the impact of subject of study can be reduced by encouraging universities to offer different disciplines for women via e-learning. However, more importantly work is needed to increase women's freedom to choose whatever is suitable for them (Sen, 2009). This can be done via minimising the male domination over women by issuing regulations to do so as well as enhancing male beliefs of women's rights by increasing their awareness of such things via the implementation of religious courses through the religious authority. By doing so, the impact of women's subject of study would be reduced and as a result women's chances to access and use e-learning will be increased (see figure 9-19).



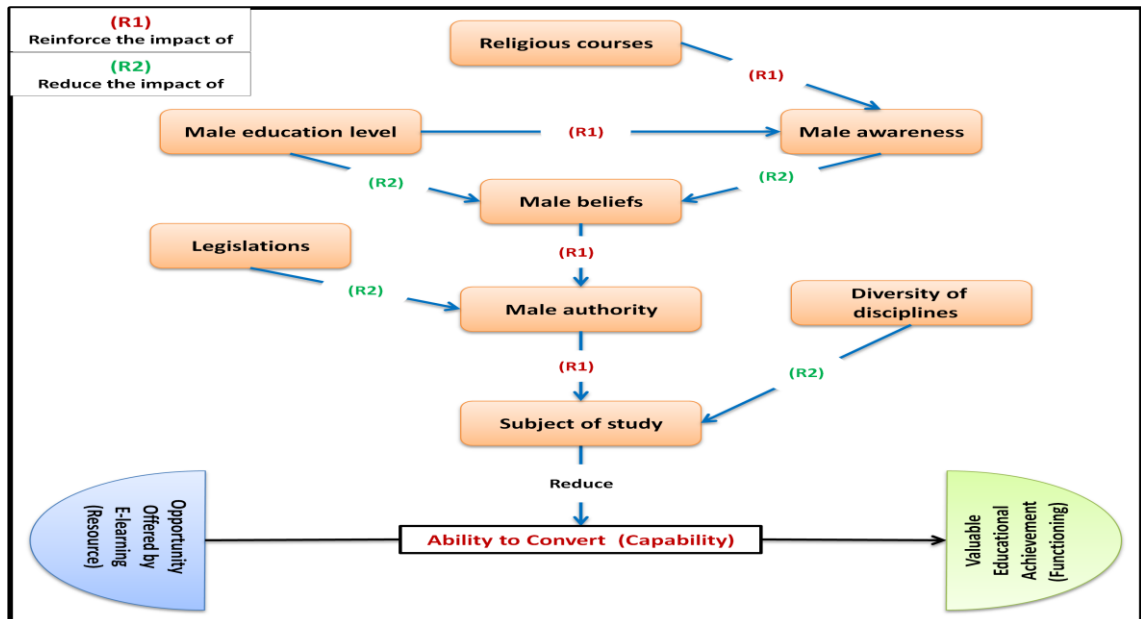


Figure 9-19: The Impact of Subject of Study on Women's Ability and its Relation with other Dimensions

#### 9.1.3.8. Tuition fees

This study revealed that the tuition fees of e-learning are another aspect that would affect Saudi women's ability to access and use e-learning, as it reduces their chances. In this study, women complained about the e-learning fees that Saudi universities charge while they do not do the same with those students who use the traditional way of learning. This is in line with Aldraiby et al. (2010), who stated that many of the students in Saudi Arabia complained about the high tuition fees for e-learning as they increase the financial burden of their family. The findings of this study show that it is possible to reduce the impact of e-learning tuition fees by reinforcing the family's financial ability through giving female students monthly rewards and providing the e-learning syllabus online as well as through reducing these fees or offering e-learning

without charge. By doing so, the tuition fees' impact would be reduced and as a result women's chances to access and use e-learning would be enhanced (see figure 9-20).

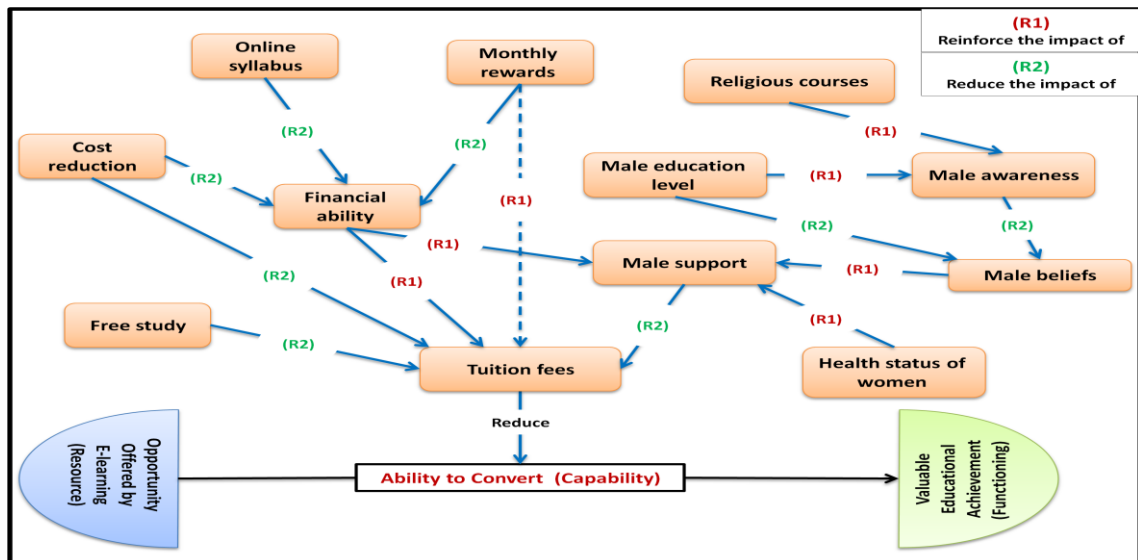


Figure 9-20: The Impact of Tuition Fees on Women's Ability and their Relation with other Dimensions

#### 9.1.3.9. Male support

This study found that male support affects Saudi women's ability to access and use e-learning freely (see figure 9-21), as it plays a part in helping women to overcome some of aspects such as tuition fees, priority of their responsibilities and health problems (see figure 8-4). In Saudi society, males play a significant role in women's life so their support will mean many things for them and will absolutely facilitate their ability to access and use e-learning freely.

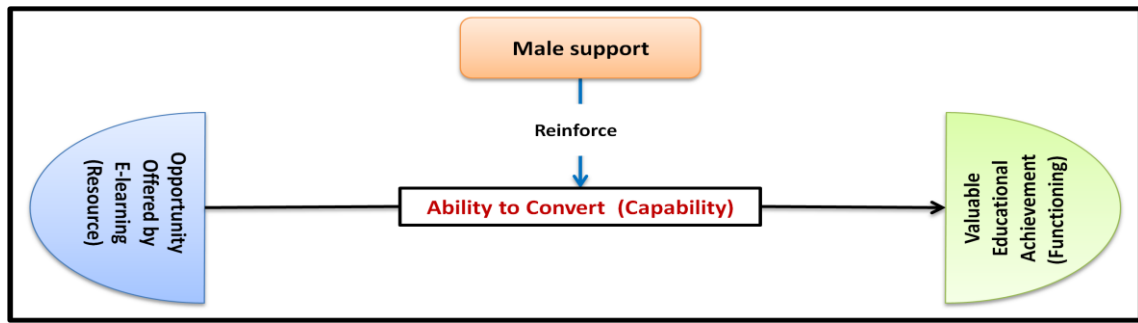


Figure 9-21: The Impact of Male Support on Women's Ability

#### 9.1.3.10. Male awareness

This study revealed that male awareness is affecting Saudi women's ability to access and use e-learning freely (see figure 9-22), as it plays an important role in working against the unwanted view that men hold for their women (see figure 8-11). Due to the lack of male awareness of women's rights in Saudi society, women's opportunity to take advantage of e-learning to complete their higher studies became limited, as it led men to put many constraints between women and them accessing and using e-learning. Therefore, increasing male awareness would firstly enhance women's status in Saudi society and secondly lead to facilitate them accessing and using e-learning freely.

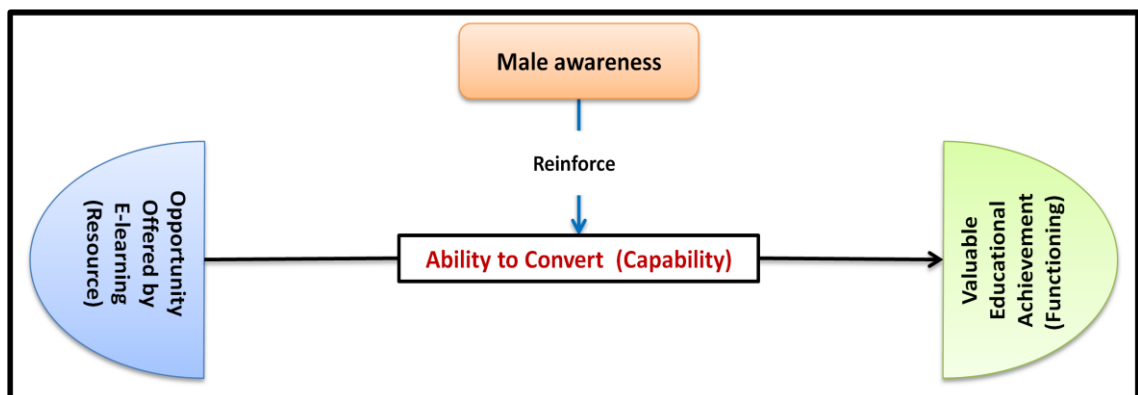


Figure 9-22: The Impact of Male Awareness on Women's Ability

#### 9.1.3.11. Male education level

This study revealed that male education level is affecting Saudi women's ability to access and use e-learning freely (see figure 9-23), as it enhances male awareness of women's rights and reduces the impact of male beliefs on women's education (see figure 8-14). However, the impact of men's education level will be at odds with the decision that has to be taken, if it is conflicting with the social culture which cannot be ignored. Even though, male education level still has a favourable impact on women's ability.

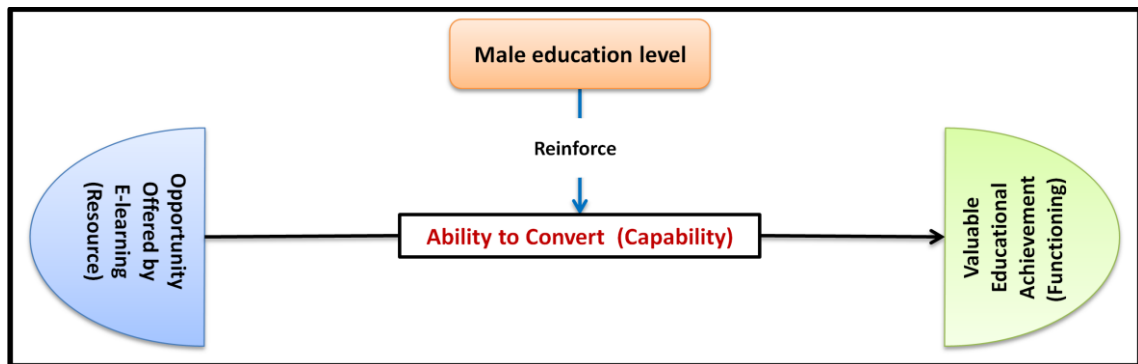


Figure 9-23: The Impact of Male Education Level on Women's Ability

#### 9.1.4. Government Stimulation Factors

This study found that the government stimulation factors played an important role in reinforcing Saudi women's ability to convert the opportunity offered by e-learning into a valuable educational achievement (see figure 9-1), as it could help to reduce the impact of some aspects, for example, but not limited to, male authority, family monitoring, technology skills and financial ability. In Saudi Arabia, women cannot deal with their inability to access and use e-learning without their government's help because of the male domination and beliefs' culture towards women. Indeed, all of the

women who participated in this study asserted their need for the government to help and put emphasis on its role to support them on this issue. In that regard, women made it clear that they did not want their government to only offer them an opportunity to complete their higher education via e-learning, instead they wanted to be given the power enabling them to access and use e-learning freely. This is in line with Nussbaum (2000), who stated that offering someone the chance to do something is not enough without giving him/her the power to achieve it. This is also in agreement with Sen (1983), who asserted that knowing a person's capacity to do something is more important than providing him/her with this very something. Therefore, the Saudi government should pay attention to those factors that would reinforce women's ability to access and use e-learning freely, alongside with focusing on the technical issues of e-learning. These stimulation factors, that the Saudi women in this study suggest should be looked at by their government so that their ability to convert the opportunity offered by e-learning into a valuable educational achievement would be enhanced, are female lecturer, cost reduction, internet connection services, online syllabus, monthly rewards, free study, training courses, legislations, online exam, certificate recognition, religious courses and diversity of discipline (see figure 9-24). They will be discussed below:

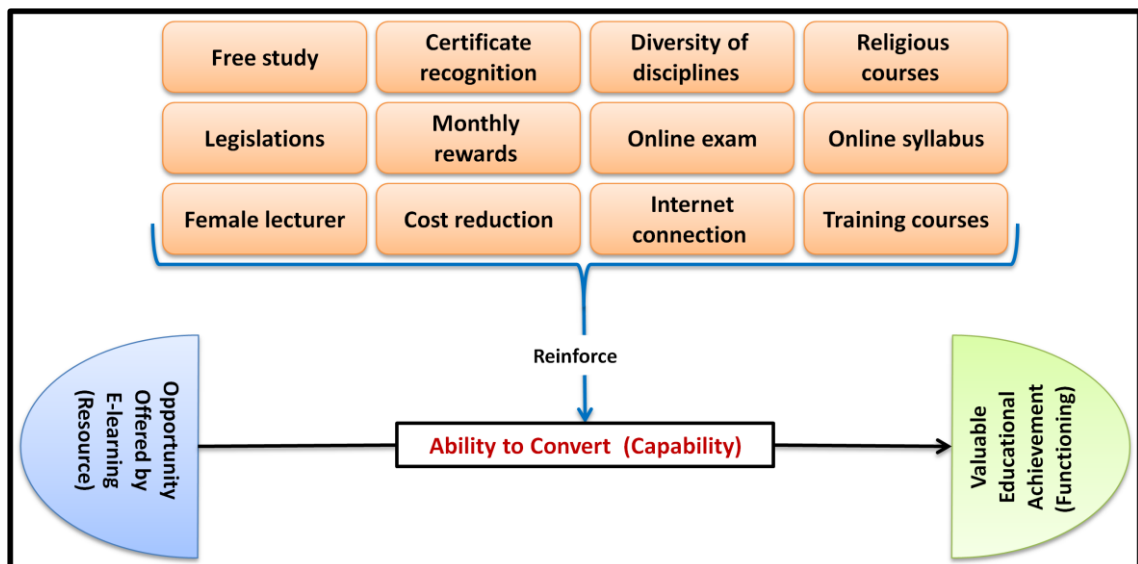


Figure 9-24: The Impact of Government Stimulation Factors on Women's Ability

#### 9.1.4.1. Female lecturer

This study revealed that providing a female lecturer to teach women via e-learning is a vital aspect that would reinforce Saudi women's ability to access and use e-learning freely (see figure 9-24), as it would help them reducing the impact of some aspects, namely: rules of women's behaviour and family monitoring (see figure 8-20). The need for a female tutor was very obvious from the women participants so they could eliminate the risk of a male tutor making any sexual advances towards his students and to make their guardians feel comfortable with them using the internet for e-learning. This is because of the restricted culture that women face in Saudi society. For example, they are not permitted to contact men via any method or to stay with them in the same place. This is in line with Tubaishat et al. (2006), who stated that the communication between genders is affected by cultural, social and religious reasons. Baki (2004), Al-Kahtani et al. (2006) and Mohamed et al. (2008) also agreed with this and stated that any type of communication between unmarried, unrelated males and

females are restricted, and that for any man to talk directly to a woman not related to him would be impossible, even via the internet, because of religion and culture. This practice leads to minimise women's ability to access and use e-learning freely. Mehana (2009) and Al Lily (2011) agreed with this and stated that any course of e-learning run by a male tutor is unacceptable for the female's family. This is in line with Aldurywish (2010) who stated that the online communication between male academics and female students had been prohibited by many parents. This indicates that the presence of female lecturers is a key demand to facilitate women's access to e-learning, based on the culture of society, which the Saudi government needs to grant. Elci (2005) agreed with this and stated that it is important for the approach of e-learning which is adopted to take into consideration the local society and culture. Even if it is difficult to achieve because of the lack of female lecturers and high graduating number of females from secondary schools every year (Alaugab, 2007; MoHE, 2013a), the government needs to work hard to reform the situation in order to support women's access to e-learning.

#### **9.1.4.2. Cost reduction**

This study found that a cost reduction of some services related to e-learning is another aspect that could reinforce women's ability to access and use e-learning freely (see figure 9-24), as it would help them to reduce the impact of some aspects, namely: the availability of device, tuition and internet fees as well as family's financial ability (see figure 8-20). Reducing the cost of the internet is one method that could increase women's chances of getting an internet subscription in their home, as it would enhance the family's ability to face the high fee for the internet. This is in line with

Aldraiby et al. (2010) who stated that the high fee to use the internet is one of those barriers which lead Saudi students not to use e-learning. A reduction of the price of computers would also help women getting technology of good quality, which would facilitate their use of e-learning. This is in line with Sheehy (2011), who stated that computing facilities are essential in making the distance teaching-learning process easy and effective. In addition, the impact of the tuition fees of e-learning was indicated by women as it minimises their ability to use e-learning, so they ask for their government to reduce these fees in order to increase their chances to use e-learning. By doing so, the government would help women to face the impact of their family's financial inability and thus their ability of access and use e-learning would be improved.

#### **9.1.4.3.    *Internet connection services***

This study found that internet connection services are another aspect that could reinforce women's ability to access and use e-learning freely (see figure 9-24), as it would help them to reduce the impact of some aspects, namely: period and environment of use (see figure 8-18). Women in this study emphasised on the lack of internet connection services, in terms of coverage and speed, which influenced their use of e-learning. This is in line with the result of the study conducted by Aldraiby et al. (2010), who demonstrated the impact of the networks' connection limitation on the use e-learning. Al-Wehaibi et al. (2008) agreed with this and stated that the speed of the internet connection is another impeding aspect that affects Saudi students' use of e-learning. Due to the low internet speed and coverage, the impact of time and place limitations that women face through social culture (male authority) when they want to use e-learning is increased. For example, since they already have to deal with women's



responsibility towards their family and male rules requiring them to be in specific places when they want to use e-learning, the limitations of the internet coverage make their ability to meet the previous requirements even lower as it decreases their environment of use even further. Another instance is when women's responsibility towards their family and their family's financial situation require them to finish using e-learning quickly, but the low speed of the internet connection goes against their ability to meet these requirements as it leads to increase their period of use which is not acceptable based on their situation. Thereby, improving internet connection services (coverage and speed) would help women to enhance their chances of meeting the requirements of their guardian as well as their responsibility, health status and family's financial ability. As a result, their ability to access and use e-learning would be improved.

#### **9.1.4.4.    *Online syllabus***

This study revealed that the availability of the e-learning curriculum is another aspect that could reinforce women's ability to access and use e-learning freely (see figure 9-24), as it would help them to reduce the impact of family's financial ability aspect (see figure 8-22). The way universities use to provide the e-learning syllabus to students increases their financial burden since they usually send the curriculum to students by regular mail, to the nearest Post Office to their home address, but in order to do so the student must pay the syllabus fees plus postage. By doing so, women's ability to use e-learning is reduced because of excess expenses. Therefore, offering all e-learning syllabuses online or sending them to the women without charge is needed to reinforce

women' chances of using e-learning. The universities changing their way, with the government support, would mean no extra cost to the women's family.

#### **9.1.4.5.    *Monthly rewards***

This study revealed that monthly rewards is another aspect that would reinforce women's ability to access and use e-learning freely (see figure 9-24), as it would help them to reduce the impact of the family's financial ability aspect as well as to reinforce male supporting women in their use of e-learning (see figure 8-17). Saudi universities give their students who use the traditional way of learning a certain amount of money each month, while they do not do the same for those students who use the e-learning method. By doing so, universities will not motivate students to complete their higher education via e-learning. However, some students and especially women cannot access university via the traditional way, so the only way for them to complete their higher studies is through e-learning. Therefore, Saudi universities with the help of the government need to take this into account and offer women a certain amount of money each month to facilitate their access and use of e-learning. However, women in this study asserted that the money they ask from their government is not for themselves, but that they want it to support their family and also that they want to feel equal to the men who have the chance to benefit from the traditional method of learning while they cannot do so.

#### **9.1.4.6.    *Free study***

This study found that making studying via e-learning free of charge would be another aspect that could reinforce women's ability to access and use e-learning freely (see

figure 9-24), as it would help them to cancel the impact of the tuition fees aspect (see figure 8-23). Even though education in Saudi Arabia is free of charge for all of its citizens (Al-Khalifa, 2010c), it is not for those who use the e-learning method for their studies. This practice reinforces women's inability to use e-learning as it will increase the payment for their studies. Therefore, women in this study emphasised the need to provide free e-learning, just as the traditional method of learning, in order to enhance their use of e-learning.

#### **9.1.4.7.    *Training courses***

This study found that training courses were another aspect that could reinforce women's ability to access and use e-learning freely (see figure 9-24), as it would help them to reduce the impact of the technology skills aspect (see figure 8-18). Women who were interviewed in this study showed concerns for their lack of knowledge on using computers as well as internet skills, which impact on their use of e-learning. For example, based on their shortage of technology skills they cannot use technology without fear of doing something wrong, something that would lead them to lose their chance to complete their studies via e-learning as they already use it under so many rules from their male guardian. Based on that, the need to enhance Saudi women's knowledge of technology becomes a necessity. This is in line with Adamus (2009), who stated that women need more support than men to enhance their knowledge of using technology from the beginning of e-learning courses. Creating training courses on technology use, to prepare them to use a computer and the internet in the early stage before they enrol in e-learning, would help them to be more confident when using e-

learning and would support them in overcoming their technical concerns. By doing so, women's ability to access and use e-learning would be improved.

#### **9.1.4.8.    *Legislations***

This study found that legislations are another vital aspect that could reinforce women's ability to access and use e-learning freely (see figure 9-24), as it would help them to reduce the impact of some aspects, namely: male authority and the recognition of e-learning certificate (see figure 8-19). Saudi women face a limitation to their access and use of e-learning because of the male authority over them as it will not be reduced without a formal intervention from the government, through issuing clear regulations aiming to minimise such power over women. This is in agreement with Nussbaum (2000) who emphasised that the principal role of the government is to underline those constitutions that are related to enhancing women's situation in their society. Another matter is that the presence of clear regulations removes the concern about the recognition of the e-learning certificate for women as it would increase their trust in the e-learning method in offering them a job like the certificate for the traditional method in the future. By doing so, would not only help women's chances to access and use e-learning but women's freedom would be enhanced as well when reducing the male authority.

#### **9.1.4.9.    *Online exam***

This study revealed that the method and availability of the e-learning exam are another aspect that could reinforce women's ability to access and use e-learning freely (see figure 9-249), as it would help them to reduce the impact of women's movement

aspect (see figure 8-21). In Saudi Arabia, women's movement is restricted by male authority as women have to firstly get their guardian's agreement to be able to move outside their home. This practice is not acceptable among women as it help to limit their ability to use e-learning because of their need to leave their home to take the e-learning exams in the place that the university has chosen. This is in line with Elango et al. (2008) who found that some of the e-learners were not contented with the current testing methods that universities are using. Therefore, universities need to offer e-learning exams online in order to reinforce women chance to use it.

#### **9.1.4.10. Recognition of e-learning certificate**

This study found that the recognition of the e-learning certificate is another aspect that could reinforce women's ability to access and use e-learning freely (see figure 9-24), as it would strengthen the desire of women and their family to use the e-learning method. Women in this study were not clear about whether the e-learning certificate is recognised by the government and companies as the traditional one or not. This is in line with Alrashidi (2014), who stated that university lecturers and students felt that the chance to get a job when you graduated from an e-learning programme is limited, compared with using the traditional method. Therefore, women need to clearly know the status of the e-learning certificate recognition as it would encourage them to use e-learning.

#### **9.1.4.11. Diversity of discipline**

This study revealed that offering different disciplines via e-learning is another aspect that could reinforce women's ability to access and use e-learning freely (see figure 9-

24), as it would help them to reduce the impact of the subject of study aspect (see figure 8-24). Women in this study asserted that the number of disciplines that are offered by e-learning is limited. This is in line with Sadig (2004) and Elango et al. (2008) who stated that a majority of students were not satisfied with the variety of courses offered by e-learning as it did not suit their specific needs. This indicates that the demand to provide different subjects via e-learning is high among women. Even though choosing their study subject is not available for Saudi women, the availability of different disciplines would enhance their chances to get their favourite subject. Therefore, universities are required to offer a variety of disciplines through e-learning to reinforce women's ability to access and use the programmes.

#### **9.1.4.12. Religious courses implementation**

This study revealed that the implementation of religious courses by the religious authority is another way to reinforce women's ability to access and use e-learning freely (see figure 9-24), as it would help women to reduce the impact of male beliefs towards them when it reinforces male awareness of women's rights (see figure 8-12). In Saudi society, the religious authority is appreciated and respected by all citizens, it has strong powers and its voice is often audible. Therefore, the advantage of reinforcing the status of women in society, through applying religious courses directed to men in order to increase their awareness of women's rights should be used. This way would lead to reduce the control of men over women and thus would enhance women's ability (freedom) to use e-learning. This is in line with the capability approach perspective, which focuses on empowering women to do whatever they value by enhancing their freedom (Sen, 1999; Nussbaum, 2000).

## 9.2. Theoretical Insights of Saudi Women's Life

In this section, some of the interviewed women's answers will be discussed in order to present their views about their living status, based on the perspective of capability approach in general and Nussbaum's approach in particular. As a response to the injustices facing women in the world, Nussbaum has developed a theory to advance women's situation internationally in order to empower them to be and do certain things that are more valuable in society (Nussbaum and Sen, 1993; Nussbaum, 1995). Thereby, she has introduced her list of central human capabilities and uses it as the foundation to creating fundamental political principles and measuring the situation of women in developing countries (such as Saudi Arabia) because of the lack of support that women all over the world receive for what she sees as fundamental capabilities of human life (Nussbaum, 1999).

According to Nussbaum (1999), these capabilities should be provided to all women in patriarchal societies such as Saudi Arabia since they have a right to them as there are essential capabilities of their human life. This can be seen when a woman asserts her needs to such capability (to be responsible for herself) by saying that:

*"I do not want a lot of things from my husband, I just want him to leave me do what I prefer to do because I am of an age that makes me able to live without any custody from anyone." (F9)*

Another woman stresses her right to take on important roles in her family by sharing with her husband his decisions for their family life when she said that:

*"I really want my husband to allow me to take a significant role in our family life and share with him any decision- making that is related to our family." (F2)*

In addition, women not only assert their rights of equality with men but they also put the emphasis on the wish for their daughters to have rights in the future, by saying:

*"I want my daughters to have a future that enable them to get their equality with men and have access to their rights to live as human beings and have their personality and their entity independent from men in order to get their freedom from subordination to men." (F1)*

The above examples show that women today are not as the previous generation because they ask for a lot of things from their men and work to bring up their children with a strong personality and more knowledge about their rights as they want them to be different from them. One woman demonstrates such things by saying:

*"I want my daughters to learn from my mistakes when I totally obey my husband and my brother until I beg them to get me my rights, so I want them to claim their rights from the beginning and not to stay under their male's mercy." (F8)*

However, these capabilities are inhibited within Saudi society because of its way of dealing with women compared to men, as one woman explains by saying that:

*"I do not exist in my family as they do not ask me or listen to my opinion about anything in our family, even if it is related to my life such as marrying or studying, which is opposite to my brothers' situation in the family. For example, one day I asked my father to buy me a computer as I wanted to complete my higher studies*



*via e-learning but he refused my request, however he accepted to buy it for my younger brother.” (F6)*

This exercise implies that equality between genders does not exist in Saudi society as it sees women as less than men, which should be reduced as it impedes on women enjoying their rights.

Another woman states that:

*“My husband cancels my existence completely as he does not listen to my opinion about anything, even if it is for our family’s life or for something related to my personal life.” (F17)*

This indicates that men domination over women is high in Saudi society which prevents them from getting the basic capabilities they should have as human beings.

Another capability prohibited to women in Saudi society is their ability to be free to do those things that are valuable to them. This status was described by a woman who said that:

*“I have to get my guardian’s agreement in advance before doing anything even if it is very important to me.” (F6)*

Another woman asserted this limitation when she described her inability to move freely by saying:

*“I cannot move freely outside my house without my father permission, even if it is for my studies.” (F4)*

In light of the above, the chance for Saudi women to have the minimum of Nussbaum's list of central human capabilities is limited because of the practices that women have to go through in such society and the rules they must follow to get their rights (Nussbaum, 1998, 1999). In this regard, the status of women in Saudi society needs to be improved in order to give them a chance to live their life as they want and to do whatever they see as useful for themselves. By doing so, the opportunity for Saudi women to take advantage of using e-learning in their study would be enhanced.

### **9.3. Summary**

The role of the conversion factors and their dimensions that play a role in affecting Saudi women's abilities to convert the opportunity offered by e-learning into a valuable educational achievement, in terms of the perspective of the capability approach and the feminist theory are discussed alongside, linked to related literatures.

According to the discussions, the lack of freedom is the main concern that Saudi women face because of the tribal society culture. However, the government stimulation factors would help them to mitigate the effects of this barrier. Therefore, the need for more space of freedom is more important than only making e-learning available for women to complete their studies, as such things will improve their chances to access and use e-learning freely. In the next chapter, this research will be concluded by focusing on the way this research addressed its questions.

## **10. Conclusion of the study**

The purpose of this chapter is to conclude the research by discussing how it addressed the original questions as well as its contribution to knowledge, its evaluation and its limitations. Recommendations and future research are also discussed, based on the findings of this research and a reflection over the journey of this research is introduced.

### **10.1. The Answers of the Research Questions**

This research aims to demonstrate the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement, through the perspective of the capability approach, while drawing from the grounded theory. In order to achieve this, three questions were considered. They are addressed below.

#### **10.1.1. What are the dimensions that characterise the capability requirements to apply the uptake of e-learning by women in Saudi Arabia?**

The diagram below represents the answer to this question, as was shown in chapter six which provided thirty-four dimensions that characterise the capability requirements of women in Saudi Arabia using e-learning and their relationships with each other (see figure 10-1).

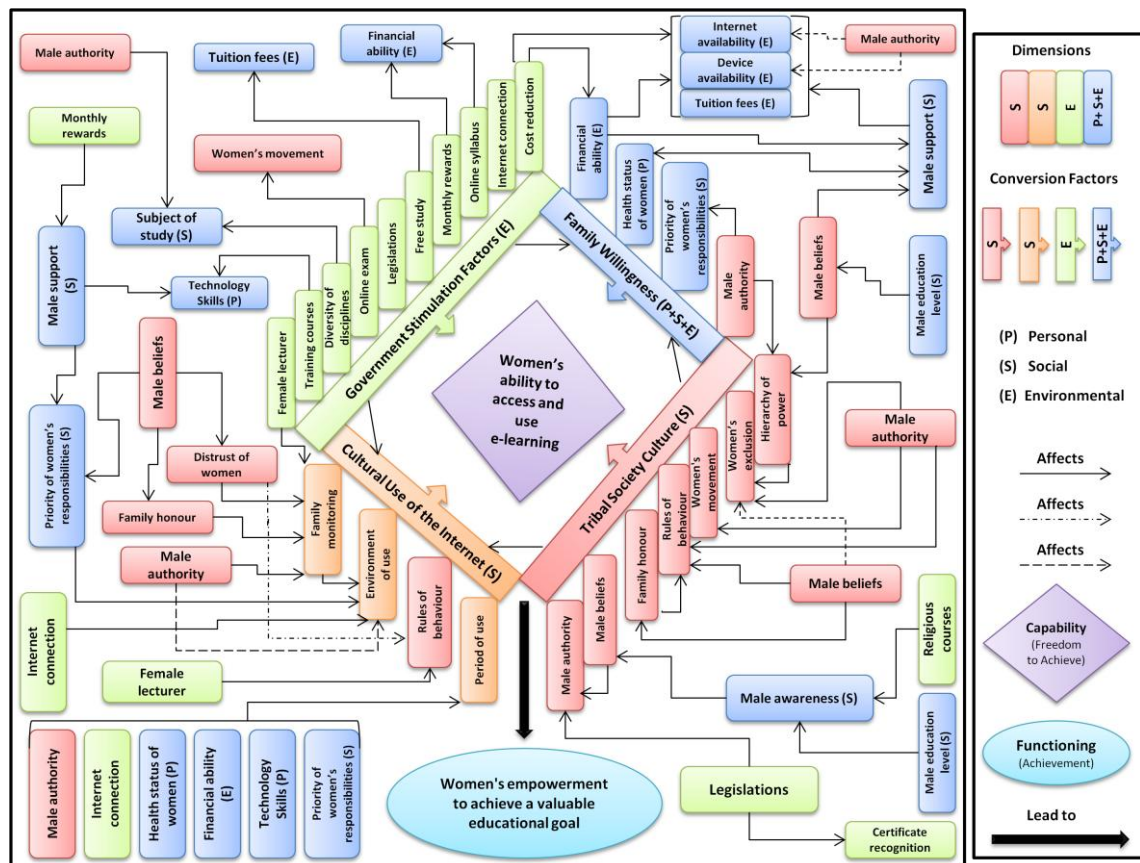


Figure 10-1: An integrated Model to Illustrate the Dimensions that Characterise the Capability Requirements that Apply to Women in Saudi Arabia Using E-learning (copy of figure 7-6)

### 10.1.2. Which factors affect the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement?

The use of the capability approach has enabled those factors that affect Saudi women's ability to convert the e-learning opportunity into a valuable educational achievement to be discovered. This was shown in chapters seven and eight and discussed in chapter nine, when four factors that impact on women's ability were identified. These were tribal society culture, cultural use of the internet, family willingness and government stimulation factors (see figure 10-1 and 10-2).

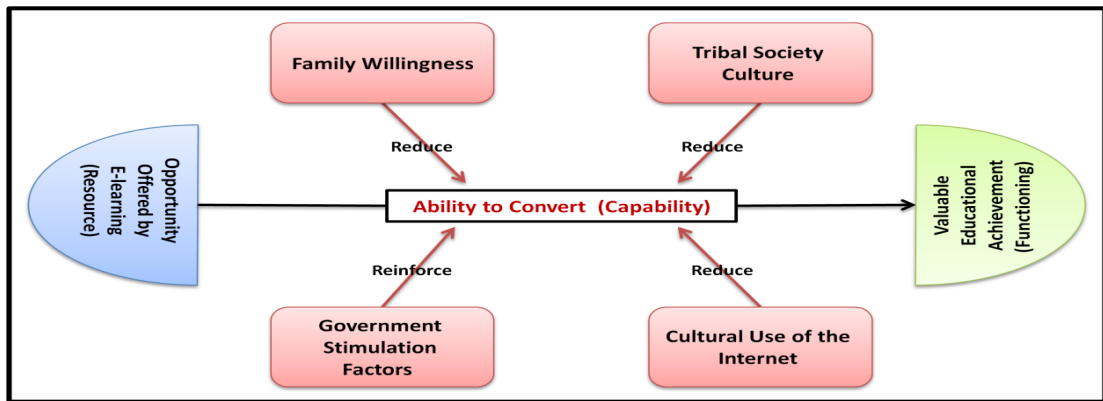


Figure 10-2: The Effect of Conversion Factors on Saudi Women's Ability to Convert the Opportunity Offered by E-learning into a Valuable Educational Achievement (copy of figure 9-1)

### 10.1.3. How can we combine practical and theoretical strands to develop practical capability approach dimensions in a distinctive context?

The diagrams below represent the answers to this question which were shown in chapter seven by describing and discussing the mechanism procedure that was applied to combine practical and theoretical strands to develop practical capability approach dimensions using capability approach and grounded theory (see figures 10-3 and 10-4).

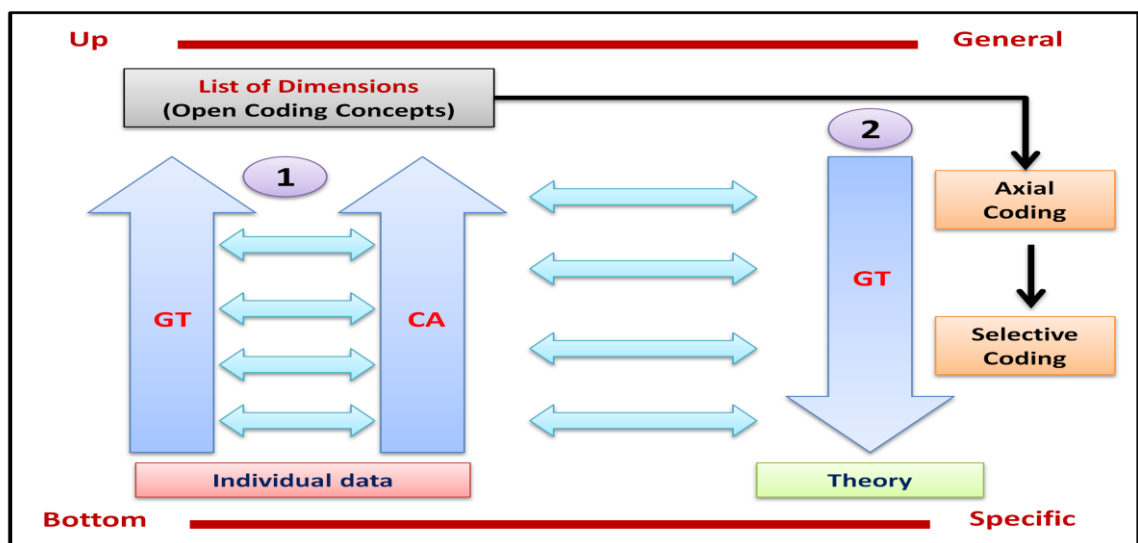


Figure 10-3: Analytical Framework Model (copy of figure 7-1)

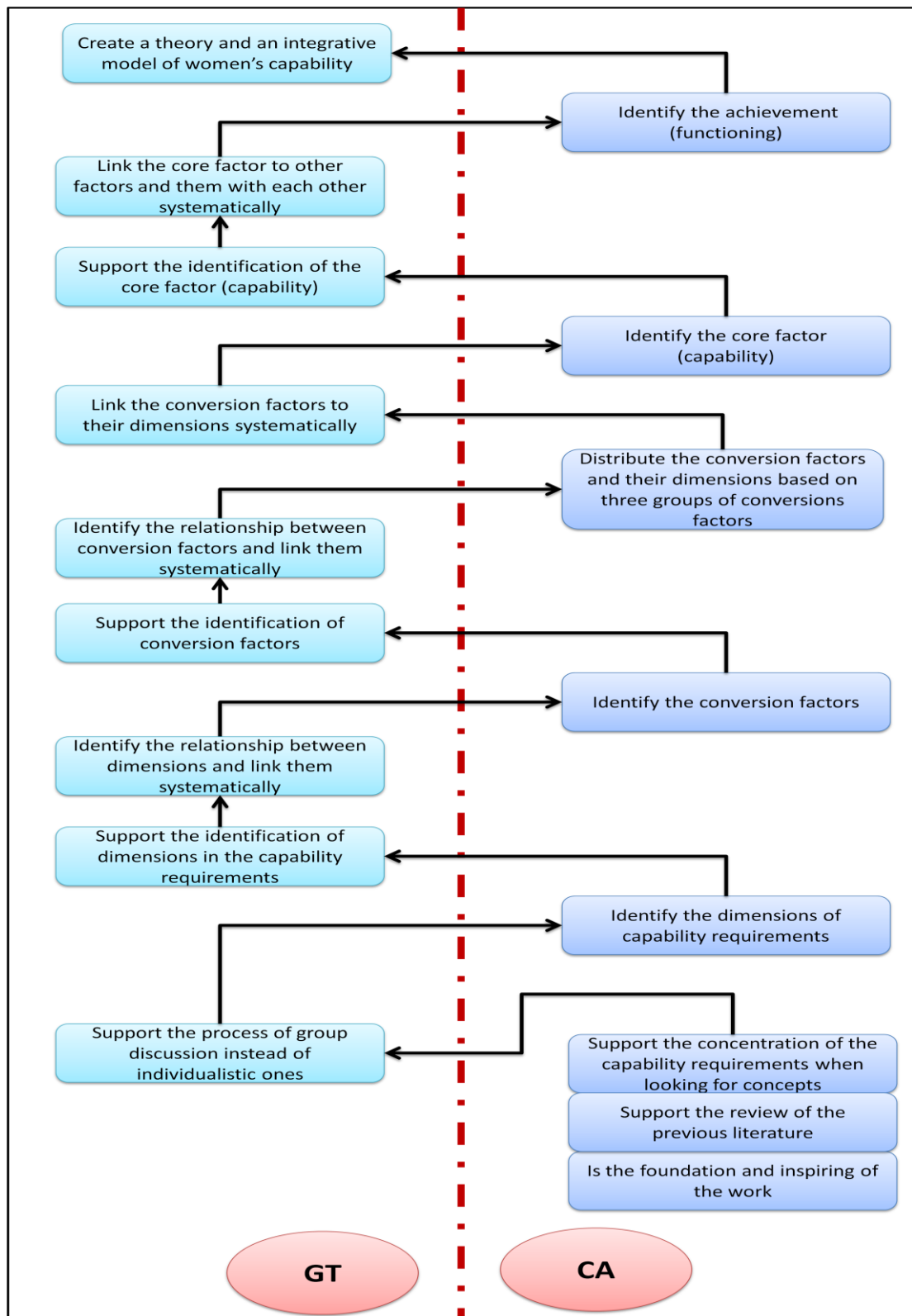


Figure 10-4: The Way that Capability Approach and Grounded Theory Feed Each Other

(copy of figure 7-2)

## **10.2. Contribution of the Study**

This study has made several contributions to knowledge, which are as follows:

- Several studies on e-learning and distance education for higher education in Saudi Arabia have been done by Alaugab in 2007, Al Muhaisan in 2008, Mehana in 2009 as well as Alebaikan and Al-Khalifa in 2010. However, previous studies have focused on the e-learning pedagogy, including barriers, benefits, implementation, attitudes and perceptions of the participants, and have looked at variables such as age and gender through different subjects. Based on that, this study is the first one of its type to focus on e-learning in Saudi Arabia through the illustration of Saudi women's ability to convert the opportunity offered by e-learning into a valuable educational achievement using the perspective of the capability approach, while also drawing from the grounded theory.
- This study is also the first one to determine the dimensions that characterise the capability requirements of women in Saudi Arabia using e-learning.
- This study introduced a distinctive analytical framework to combine practical and theoretical strands in order to develop practical capability approach dimensions.
- It demonstrated that applying the grounded theory gives the process of choosing dimensions the power to be more accurate than when using the capability approach alone.
- It showed the power of utilising the capability approach as an evaluative framework in the technology domain in general and e-learning in particular.

- It demonstrated the ability of the capability approach to inform an analysis of Saudi women's access of e-learning.
- It offered more insight about Saudi women's situation in a conservative and tribal society as well as showed the role of such society in affecting their ability to access and use e-learning freely.
- It helped opening a window in front of women so they can make their voices heard and draw the attention of the government on the dimensions that characterise their capability requirements to access and use e-learning effectively as a way to attain a valuable educational outcome.

### **10.3. Research Evaluation**

This research will be evaluated based on the assessment of the use of the grounded theory. According to Strauss and Corbin (1990, p. 252; 1998, p. 268), four different issues should be addressed to meet the validation standards of the grounded theory and also to ensure the right procedures are followed and the outcomes are represented faithfully in the final analysis. These are: the applicability of the theory to a phenomenon, the credibility of the data, the sufficiency of the research process and the empirical grounding of the findings. In this regard, the above criteria were applied to evaluate the accuracy of the use of the grounded theory in this research. This is as follows:

1. **The applicability of the theory to a phenomenon:** according to Glaser and Strauss (1967, pp. 237-250) and Strauss and Corbin (1990, p. 23), the grounded theory should be built to meet four essential criteria to judge the applicability



of the theory to a phenomenon, namely “*Fit, Understanding, Generality and Control*”. In this regard, this research followed different processes to meet these criteria as that would lead to achieve the applicability of the theory to a phenomenon and give the theory its explanatory powers. Thus, this research used the participants’ own words to make sure the data was closely related and corresponding to their daily realities and to make it understandable to the people who studied it by using the ‘in vivo code’ technique, this was shown in chapter seven (section 7.3.1). It also created concepts (dimensions) from data and linked them systematically through following the process of open, axial and selective coding to make the theory abstract enough to present the phenomenon under study, this was shown in chapter seven. In addition, this research used comparative analysis and the theoretical sampling technique to get sufficient control over the structures and the procedure of collecting and analysing data, to modify and refit the emerging categories as they changed throughout the research continuum. This was shown in chapter seven and section 6.6.3.3.

2. **The credibility of the data:** credibility is related to the level of the accuracy and trustworthiness of the data (Lincoln & Guba, 1985; Rinaldi, 1995). In this regard, a judgment on the usefulness of the data was made through the pilot study and procedures of coding as it would not be possible to begin the coding if the data collected was insufficient. In addition, a judgment on the accuracy of the data was made by applying the theoretical sampling technique and Alkire’s ongoing deliberative participatory technique through data collection and

analysing process in order to demonstrate that it is directly related to the participants' opinions. This was shown in chapter six (section 6.6.3.2) and chapter seven. To increase the trustworthiness of the data, this research was followed a special process to conduct study and collect data, as was shown in chapter six (section 6.6.3 figure 6-1).

3. **The sufficiency of the research process:** despite of the difficulty to judge the components of the research process because of the shortage on details about the analysis process that might be presented, according to Strauss and Corbin (1990), it can be achieved by offering certain types of information. This information includes: determining the process of selecting sample, identifying the emerging categories and subcategories, linking categories and subcategories to data, illustrating the theoretical sampling process and clarifying the process used to identify the core category that would help the reader to make his or her own judgment about the research process. In this regard, this research clearly explained the procedure that was followed to select the original sample for this study, which was from the society using the purposive sampling technique alongside the theoretical sampling technique of the grounded theory, as it was shown in chapter six (section 6.5.3). It also illustrated the process that was used to identify the emerging categories and subcategories as well as their relationships with each other and those linking them to the related data. This appears in chapter seven (section 7.3). In addition, the procedure of theoretical sampling was clearly explained in chapter

six (section 6.6.3). This research also clarified the procedure that was followed to identify the core category, which was shown in chapter seven (section 7.3.2).

4. **The empirical grounding of research findings:** Strauss and Corbin (1990, pp. 245-256) suggest some criteria that can be used to judge the quality of the findings from the grounded theory, which is applied in this study. These criteria should cover some areas including: generating concepts and their grounding in the data, developing categories and subcategories systematically, linking the core category with other categories and validating their relationships against the data. In this regard, this research generated concepts and grounded them in the data by using the open coding process, which was shown in chapter seven (section 7.3.1). In addition, it systematically developed the relationships between categories and subcategories by applying the axial coding procedure via using the paradigm model process, which was shown in chapter seven (section 7.3.2). This research finally related all the other categories to the core category and validated these relationships against the data by using the selective coding process, which was shown in chapter seven (section 7.3.2).

#### **10.4. Limitations of the Study**

Even though the aim of this study has been achieved, some inevitable limitations have appeared. These are as follows:

- The Kingdom of Saudi Arabia covers a large area with a rugged terrain. This means that the country shows great contrasts between the more accessible and, as a result, more westernised areas around the major cities of Riyadh and

Jeddah and along the major transport routes, and the less accessible and distant regions of the country such as the extreme North and South of the country. This affects societal norms and practices which are more conservative in the less accessible regions. Because of this, the current study focused on those females who live in the North and the South of Saudi Arabia since their access to higher education was more likely to be restricted by several factors determined by the social norms which regulate their place in society. Social and religious constraints are greater, which makes accessing higher education difficult for women both in their ability to physically attend institutions of higher education, but also in their ability to be away from home to attend as the time and commitment required from them will not be legitimised by society. Typically, the freedom of women to devote time to education and their ability to access it are more likely to be limited. In addition, there are eight regions in the North and the South of the kingdom and every region has one main city and a number of provinces, which means that the number of female students is very high. Therefore, it would be difficult to cover all of these regions. Thereby, the study was located only in Najran as a sample of the Southern regions and in Northern Border as a sample of the Northern regions of the country. However, it would be beneficial to expand the research to cover other regions in the country in order to understand the whole picture of the issue under study here: Saudi women's ability to use and access e-learning freely.

- As this study is limited to Saudi Arabia, its findings may not be generalised to any other context. However, there is a possibility to extend these results to other conservative and tribal societies such as countries in the Arab Gulf because of their similar circumstances.
- In spite of the efforts that the researcher has made (e.g. involve a woman researcher in the analysis process and apply Robeyns' check and balance technique) to reduce the risk of bias and a male researcher affecting the interpretation of the data collected for this study as it might limit the achievement goal of this study, the probability that such impact would still exist is there.
- Using an external interviewer (female in this case) to conduct the interviews on behalf of the researcher is a solution the researcher has chosen to resolve his limitation of access to the data collection but this might lead to the loss of some important information due to their significance being missed because of the inability of the researcher to interpret and place the interviews in a normal situation, which would limit the findings of the study.
- As this study attempts to understand the current situation of Saudi women in society and identify the dimensions that empower or inhibit their freedom to access and use e-learning efficiently in order to achieve a valuable educational outcome, the guiding of its theoretical insight is limited to the use of the capability approach and the interpretive paradigm. However, the possibility of utilising other theories such as feminist and critical theories to support the capability approach in guiding the theoretical insight of this study exists.

### **10.5. Recommendations**

The results of this study guide the researcher to make some recommendations that could improve the current situation of women and thereby enhance their ability to access and use e-learning. These are as follows:

- The government should revise and update policies that are related to the status of women in Saudi society because their requirements have changed compared to their needs in the past, since they have become more educated and knowledgeable about their rights.
- Women should be provided a space of freedom by the government rather than being offered e-learning to use for their higher education.
- It should give women enough power to use and access e-learning instead of just making it available to them, in order to enhance their ability to get the benefit of such technology.
- Women should be involved in the planning of e-learning by the government in order to reinforce their ability to access and use the technology, as it is not only men's responsibility.
- Men should be encouraged to reduce the restrictions they put in front of women's access and use of e-learning, by the government.
- Male awareness of women's rights should be increased as it plays a vital role in affecting women's access and use of e-learning.
- The government should issue regulations to reduce male authority over their women as it plays a significant role in minimising women's ability to access and use e-learning.

- There is a need to provide female lecturers to make e-learning more accessible to Saudi women.
- Offering e-learning exams and syllabuses online as well as different disciplines, free of charge, plus a monthly reward, could improve women's chance to access and use of e-learning.
- The internet connection services should be enhanced in order to facilitate women's access to e-learning.
- Women's skills regarding the use of technology should be improved prior to them using e-learning, through providing them with free training courses run by universities or the government.
- It should focus on addressing these dimensions, which were identified to improve the chances of women to freely access and use e-learning.

#### **10.6. Further Study**

Based on the findings and limitations of the study, the following suggestions for further area of research have appeared:

- As this study applies to the northern and southern regions of Saudi Arabia, it would be valuable to conduct the same study but in other regions e.g. East and West, to work out the dimensions of the capability requirements for women in these regions in order to complete the picture of Saudi women's ability to access and use e-learning.
- It could be valuable to use more than one method of data collection to add more depth to the dimensions that are addressed.

- It could be interesting to investigate more the usefulness of using the grounded theory with the capability approach to select the dimensions of capability requirements. However this time, the Glaserian approach of the grounded theory could be applied rather than the Straussian approach in order to find if there are any differences between their selected dimensions.
- It could be interesting to conduct the same study but with a female researcher, to know her views about women's ability to access and use e-learning and see which dimensions she can find in relation to women's ability requirements.
- It could be worthwhile to use the dimensions identified in this study as a departure point for a new investigation to discover more dimensions regarding women's ability to access and use e-learning.
- It would be valuable to cooperate with a female researcher instead of using a female assistant to conduct the interviews on behalf of the male researcher, in order to overcome his inability to conduct the interviews by himself and increase the possibility of reflection on the context of the interviews such as body language and environment.
- As this study adopted the capability approach with the interpretive paradigm to draw the guiding of its theoretical insight, it would be interesting to use feminist and critical theories along with the capability approach, rather than the interpretive philosophy, to critique and change women's current situation in Saudi society and understand what should be done and what the reasons are behind the changes, in order to help them shape their own future and enhance their freedom to access and use e-learning effectively.



## **10.7. Reflection**

Living in a conservative and tribal society is not easy, especially for women, as it puts a lot of obstacles in front of them which make their life more difficult than it should. I clearly realised that situation a long time ago when I saw my sister's inability to live her own life based on her choices. Since that time, the journey of this research started as an idea: focusing on women's ability in such society in general and the completion of their higher education in particular.

At the beginning of this distinctive research journey, I thought it would be an easy task to bring that idea to life but it was not. I faced unexpected and challenging aspects that needed to be seriously dealt with in order to safely drive this research to the destination I aimed to reach. The major aspect was my gender as I was a man focused on a topic relating to women. Even if, in reality, it made me special and gave me power as I can be what I want to be and do whatever I want to do, but in contrast it caused me a lot of troubles as my power became lesser in relation to the completion of this research.

Being a man put me in a position of doubt from others and I was accused of not being truthful as they did not believe that I really wanted to help women getting their right to education freely because they logically thought that men who lived in a male-dominated society do not want to lose some of their powers over women. In this regard, I had to work hard to demonstrate my desire to help women honestly, which I did hopefully by interpreting the participants' own words truthfully and by involving women researchers in the analysis process to take on board their opinions of the

process that I used to interpret the participants' answers as well as by applying techniques such as Robeyns' check and balance criteria, which would expectantly minimise the impact of my background and increase my honesty.

My gender as a man also emerged as a serious problem for the continuity of this research because of my inability to conduct the interviews by myself. I was not expecting such problems as I was planning, I thought that if the participants did not want to meet me face-to-face, I could use phone interviews or go via their male guardian but they refused to be interviewed by phone as they are not allowed to make their voice heard to strange men and with their guardian they would not feel free to talk or express their opinion about their ability to access and use e-learning. At that critical stage, I had to make a decision about how I could face this vital issue without losing my chance of controlling the interviews and giving participants the freedom to speak as much as possible, even if I could not be there myself.

As a result, I chose my wife to conduct the interviews on my behalf because participants were comfortable talking with her and she was able to contact me in order to inform me about the interview outcomes and receive my follow-up questions and notes when needed. By doing so, I was able to somehow control the interviews and not be excluded from them even if I did not personally attend in reality. Despite of my wife giving me access to implicitly interview women, my inability to shape the interviews in the place where they were conducted would however limit the findings of the study. Surprisingly, despite of the fact that women were fully aware the researcher was a man, they trusted me and offered me important, specific, private and

deep information, which I had not expected. In addition, women showed me how they were fully aware of their situation in society and to what extent they want to change it as well as their understanding of their rights and their desire to obtain them. As a result of that, I pushed myself so to not disappoint them and interpret their views honestly to help them making their voice heard by others as a departure point in their long walk to freedom.

Another unexpected aspect I had to face was how to choose the capability approach dimensions, as Sen did not determine the way to do so. In this case, it became challenging for me to find the appropriate method to select the dimensions that enable or inhibit the freedom of Saudi women from accessing and using e-learning effectively. As a result, I came up with a new approach by utilising the grounded theory to support the capability approach and developing practical capability approach dimensions, which resulted in a powerful work and presented a distinctive and workable technique.

At the end of the research journey, I expect that this work would provide hope to Saudi women by opening a window in front of them so that they could make their voices heard and draw the attention of the government on their capability requirements to access and use e-learning freely as a method to attain a valuable educational outcome, as well as to give a better understanding about their situation within Saudi society and its role in affecting their abilities. I also wished it would inspire other researchers in not losing faith in their ability to succeed when they could not get access to participants as there is always an alternative way to carry on research. I

believe that it is better to try and do your best to overcome any issues you might face, as I did by finding light in the darkness that I faced to guide me to my favourite end, rather than to just surrender. I hope as well as that it would offer them a distinctive method of developing practical capability approach dimensions by combining the capability approach with the grounded theory. In addition, I hope this research adds a new application to the capability approach and technology.

In conclusion, I am so proud of having conducted this research and its achievement, so if time goes back I certainly would not hesitate to conduct it again, as I am determined to present something that could help women to get education based on their desires. I believe that empowering women via education is the proper way to give them their rights and prepare them to the coming changes in the near future as the situation will absolutely not remain as it is now for a long time, due to the rapid changes occurring in all parts of the world which we will not be separated from. Supporting this view, Bukhsh (2007, p. 138) stated that *“Education not only provides knowledge and skills to improve health and livelihoods, but it empowers women to take their right place in society and development process.”*

#### **10.8. Study Conclusion**

The study concludes that e-learning could probably be a bridge to enable women in the Kingdom of Saudi Arabia to access higher education, however, the issue is not just about technical availability, it is also about the capability of women to benefit from such a technology. Thereby, providing Saudi women with an opportunity to complete their higher education via e-learning is not enough without giving them the power to

access and use it freely, whenever they are able to and want to do so, as their ability to convert this opportunity into a valuable educational achievement is limited and affected by tribal society culture, cultural use of the internet, family willingness and government stimulation factors. In addition, there are thirty-four dimensions such as male authority, period of use, priority of women's responsibilities and monthly rewards that characterise the capability requirements that apply to women in Saudi Arabia using e-learning. This study also concludes that the use of the capability approach has enabled the finding of these dimensions, with significant support from the grounded theory. Moreover, the combination between the grounded theory and the capability approach has provided some strength in the process of choosing dimensions and also offered a mechanism of combination between practical and theoretical strands to develop practical capability approach dimensions. This study has also opened the door for the Saudi government to realise the dimensions that characterise women's capability requirements to access and use e-learning, as well as the factors that affect women's ability to convert the opportunity offered by e-learning into a available educational achievement, which if they were addressed them may improve women's e-learning access.

### **10.9. Summary**

The questions of this study have been answered and thus its aim has been achieved. In spite of the efforts the researcher has made to minimise the limitations that have emerged and might affect the outcomes of this study, the probability of such impact would still exist. This study has made several contributions to knowledge and presented some recommendations for further work.

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## 12. Appendices

### 12.1. Appendix (1) / Research Ethics Approval

Montfort University Mail - Research Ethics Application Approva... <https://mail.google.com/mail/u/0/?ui=2&ik=87ea0d2a1e&view=pt&s...>



Yahya Al Alhareth <p10458451@myemail.dmu.ac.uk>

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#### Research Ethics Application Approval Yahya Al Alhareth: 1011/024

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Anne Smith <AmSmith@dmu.ac.uk>

23 March 2012 11:12

To: p10458451@myemail.dmu.ac.uk

Cc: Mary Prior <mprior@dmu.ac.uk>, Research Students <researchstudents@dmu.ac.uk>

Dear Yahya

RE: An investigation of the contribution of e-learning to the improvement of higher education for women in Saudi Arabia

Your application to gain ethical approval for research degree activities has been considered and **APPROVED** by the Faculty Human Research Ethics Committee (FHREC). No further issues were raised by the committee.

Please be aware that changes to the project plan or unforeseen circumstances may raise ethical issues. If this is the case it is the researcher's duty to repeat the ethics approval process.

Kind regards

Anne

Anne Smith

Research Co-ordinator

Research & Innovation Office

Faculty of Technology

DE MONTFORT UNIVERSITY

T: +44 (0) 116 250 6519

E: [amsmith@dmu.ac.uk](mailto:amsmith@dmu.ac.uk)

## 12.2. Appendix (2) / Participation Invitation and Research Overview

Dear respondent,

I am inviting you to participate in the research I am doing as a part of my PhD study at De Montfort University entitled '*An investigation into the contribution of e-learning to the improvement of higher education opportunities for women in Saudi Arabia*'. This research aims to demonstrate the ability of Saudi women to convert the opportunity offered by e-learning into a valuable educational achievement through the perspective of the capability approach, while drawing from the grounded theory. It is looking at women who have either not taken up higher education when they had the educational level to do so, who have dropped out or ceased their higher education for some reason as well as to those women who are currently using e-learning in their higher studies.

Through your participation, I hope to better understand the role e-learning could play in enhancing women's higher education opportunities in Saudi Arabia, the effective opportunities that e-learning could offer women to attain what they consider to be a valuable educational achievement and the ability of Saudi women to convert this opportunity into achieving their educational goals. I also hope that the results of the interview will be beneficial in helping to achieve the research stated objectives and answering its questions.

If you decide to participate in this interview, your reply will be treated as confidential. I will not share any information that identifies you with anyone. Notes collected during this study will be appropriately retained in a secure location for 5 years and then destroyed, if you request it. The information gained from this interview will only be used for this research. There are no known or anticipated risks to you as a participant in this study.

I hope you will take the time to talk with me in order to answer interview questions. If you decide to participate in this interview, it should not take more than an hour and a half. Your participation is voluntary. Regardless of whether you choose to participate or not, please let me know if you would like a summary of my research findings. You may withdraw your participation at any time and if you wish to do so, please contact me.

Thank you for your assistance in this research.

Yours faithfully,

Yahya Al Alhareth

**Note:** My wife will do the interview on my behalf, if you agree to be interviewed and take part in this research.

### 12.3. Appendix (3) / Participants' Consent Form

I have read the information presented in the participation invitation and research overview letter about a study being conducted by Mr. Yahya Saleh Al Alhareth for his Society Doctoral Programme at De Montfort University.

I have had an opportunity to ask questions related to this study and I have received satisfactory answers to my questions, with additional details for what I am looking for.

I am someone who has either not taken up higher education when I had the necessary education to do so, have dropped out for some reason or am studying via e-learning.

I am also aware that excerpts from the interview may be included in the course project paper to come from this research. Quotations will / will not be kept anonymous. I do / do not give permission for my identity to be revealed in research reports.

I was informed that I may withdraw my consent at any time by advising the student researcher.

With full knowledge of all foregoing, I agree to participate in this study.

Respondent Name: ----- Respondent's guardian Name: -----

Respondent Signature: ----- Respondent's guardian Signature: -----

Interviewer Name: -----

Interviewer Signature: -----

One copy of this form will be kept by the participant; a second copy will be kept by the researcher.

If you have any concerns about the project that you would like to discuss, please contact the researcher:

Yahya Al Alhareth,

Email: [Alhareth\\_y@yahoo.com](mailto:Alhareth_y@yahoo.com) or [P10458451@myemail.dmu.ac.uk](mailto:P10458451@myemail.dmu.ac.uk)

Mobile: 00966554491662 or 00447735323983

**12.4. Appendix (4) / Cultural Bureau of Saudi Arabia in the United  
Kingdom letter**

ROYAL EMBASSY OF SAUDI ARABIA

CULTURAL BUREAU

LONDON

**Indication**

The Saudi Cultural Bureau in Britain indicates that the student **Yahya Saleh A. Al Alhareth** who has won from the Ministry of Higher Education to the United Kingdom to study for a PhD on e-learning at De Montfort University.

He has been given this letter in order to facilitate the mission of data collection for his research.

Cultural Attaché

In the Royal Embassy of Saudi Arabia

**Faisal M. Almohanna Abaalkha**

## 12.5. Appendix (5) / List of Interview Questions

### Part One: General Information

1.	Age	
2.	Occupation	
3.	Marital Status	
4.	Number of children, if any	
5.	Which city / province are you living in now?	
6.	High school graduation year	
7.	Your education level	
8.	Husband's education level	
9.	Did any of your siblings complete a bachelor's degree?	
	• Brothers	
	• Sisters	
10.	Father's education level	
11.	Mother's education level	
12.	Do you have a computer at home?	
13.	Do you have access to the internet at home?	
14.	If you have access to the internet, how convenient is this?	
	• Convenient	
	• Very convenient	
	• Not convenient	



## Part Two: Interview Questions

Q. Could you please tell me about your story after graduating from high school, starting with the period before your marriage?

Q. Why?

Q. What role did you play in your family during that period?

Q. Why?

Q. Now, could you please tell me about your story during the period after your marriage?

Q. Are you satisfied with the roles that you played in your family during all that period?

Q. Why?

Q. What role do you wish to play in your family in the future?

Q. Why?

Q. Who usually evaluates and makes decisions about all those things that are valuable to you?

Q. Why?

Q. Are you satisfied with this situation?

Q. Why?

Q. Do your parents still influence your life even when you are in your marital home?

Q. Why?

Q. What is your educational goal/ambition?

Q. Are you determined to achieve your ambition and complete your university education?

Q. Why?

Q. Why did you not achieve your educational goal/ambition?

Q. Do you think achieving your educational goal/ambition will strengthen your position inside/outside your family?

Q. Why?

Q. Do you think men will change their negative perception of women? How, if yes? Or Why, if not?

Q. Are you able to take advantage of the technology (computer and the internet) to achieve your educational goal/ambition, when you have the chance to do so?

Q. Why?

Q. Are there any rules you must follow, when you use technology (computer and the internet) in your studies? If so, who imposes these rules and what are they?

Q. Does the presence of your family near you affect your studies?

Q. Why?

Q. Do you receive help and support from your husband/father/brother?

Q. Why?

Q. What factors do you think will enhance your use of technology (computer and the internet) in your studies?

Q. Why?

Q. What obstacles do you think will prevent you from using technology (computer and the internet) in your studies?

Q. Why?

Q. What role do you think the government should play in order to facilitate your educational achievement through technology?

Q. Why?

Q. Would you prefer your children (daughters) to use technology to achieve their educational goal in the future?

Q. Why?

Q. What future do you want for your children (daughters)?

Q. Why?

Q. Do you want your children (daughters) to be like you and do what you did?

Q. Why?

**Based on your experience of using e-learning for your studies, could you please answer the following questions?**

Q. How would you evaluate the opportunity that you had to use e-learning in respects to achieving your educational goal/ambition?

Q. Did you have any support from your family during your studies? How was that, if any? Or Why, if not?

Q. Were there any rules you had to follow when you used those technologies in your studies? If so, who imposed them and what were they?

Q. Did the presence of your family near you affect your studies?

Q. Why?

Q. Did you encounter any difficulty when using the computer?

Q. Why?

Q. Did you meet any difficulty when using the internet?

Q. Why?

Q. Did you encounter any difficulty when sending (downloading) your homework?

Q. Why?

Q. Did you meet any difficulty when using blackboard?

Q. Why?

Q. Did you encounter any difficulty when communicating with other students?

Q. Why?

Q. What did you do when you had to communicate with a male lecturer who was the only one for this module?

- Q. If your husband/father/brother disagreed, what did you do?
- Q. Do you prefer to do your exams in person or through the internet?
- Q. Why?
- Q. How did you get your study materials?
- Q. Do you prefer to receive them via the internet?
- Q. Why?
- Q. What obstacles can prevent you from continuing to use e-learning in your studies?
- Q. Why?
- Q. What factors do you think will enhance your continued use e-learning in your studies?
- Q. Why?